# FINANCIAL TIMES



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Today's survey

**International** communications

EU states

on closer

ties with

**America** 

By Lionel Barber in Luxembourg

A French-led groop of states yes

terday blocked an EU initiative

to strengthen political and eco-

EU foreign ministers meeting

in Luxembourg failed to give the

go-ahead for a joint study with

the US oo the creation of a trans-atlantic free trade area, despite strong support for the idea from

Britain, Germany, the Scandina-

vian states and the European

nomic ties with North America.

divided

### growth in Russian economy next year

World Business Newspaper

The Russian economy could grow by up to 10 per cent next year if the government continued to implement tough market reforms, the Organisation for Economic Co-operation and Development said in its first survey of the country. The OECD forecasts that Russia's economic output, which declined by 15 per cent last year, could stabilise this year and grow by as much as 10 per cent in 1996. Page 16

Hashimoto named Japan's deputy PM:



Ryutaro Hashimoto (left), president of Japan's dominant Liberal Democratic party, took a step closer to becoming the next premier by being offered the job of deputy prime minster. Prime minister, Tomiichi Murayama. agreed to confer the largely honorary title on Mr Hashimoto after the widely expected resignation of foreign minister Yohei Kono. Page 6

Figures show US growth: The US economy is rebounding but growth is unlikely to be rapid enough to put upward pressure on inflation, purchasing managers' figures indicated. Page 4

Yen moves cost Japan \$13bn: The Bank of Japan spent nearly \$13.47bn last month in its attempt to revive the stagnant economy by driving down the yen against the US dollar. Page 6

Republicans disagree on tax plans: Newt Gingrich and Bob Dole, the Republican leaders of the US House of Representatives and Senate respectively, are at odds over the magnitude of the tax cuts due to be passed within the next six weeks.

Mitsul and GEC in turbine deal: Mitsui Engineering and Shipbuilding of Japan has signed a technology licensing contract to produce steam turbines with GEC Alsthom, the Anglo-French power. transport and engineering group owned by Alcatel Alsthom of France and GEC of the UK. Page 16

Postbank, Germany's state-owned giro bank, launched its defence against a DM3.08bn (\$2.1bn) hostile takeover bid from a consortium that includes Deutsche Post, the state-owned postal company. Deutsche Bank and Swiss Reinsurance. Page 17; Lex, Page 16

Argentina sets oil search rules: Argentina announced proposed rules for companies wishing to explore for oil in the South Atlantic, one day before the launch in London of the Falkland Islands government licensing round. Page 4

Sun international Hotels, the leisure and gaming group, announced a \$250m joint venture with the Mobegans, a tribe of native American plex in Connecticut. Page 20

Latvian vote split three ways: Latvian voters divided their support in weekend parliamentary elections almost evenly among an anti-Russian populist outsider, the ruling centrist party and the main leftwing party. Page 2

industrivärden, the Swedish investment group, spurned a SKr4.3hn (\$621m) bid for its packaging subsidiary PLM from Ball Corporation of the US and decided to go ahead with a planned public offering to its own shareholders. Page 18

Austrian party averts budget crisis: Austria's People's party pulled back from threatening the collapse of the country's coalition government when it agreed to resume the drawn-out negotiations over the budget. Page 3

Kenyan dissident escapes gallows: A Kenyan magistrate convicted Koigi Wa Wamwere, the country's leading dissident, of robbery but cleared him of the firearms charges that would have seut him to the gallows. Page 7

Czech currency joins FT list: Following reforms of the Czech koruna which start today, the Financial Times' currency page will carry the daily price of the koruna against the dollar. Currencies, Page 25

Turkish quake kills 55: At least 55 people died in a strong earthquake in Dinar, south-west Turkey At least 150 people were injured in the quake which measured 6.0 on the Richter scale.

Simpson jurors begin deliberations: Jurors in the murder trial of former US football star O.J. Simpson began their deliberations on whether he is guilty of killing his ex-wife Nicole Brown Simpson and Ron Goldman last year.

STOCK MARKET INDICES | GOLD

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with tradition

Suffering under

TUESDAY OCTOBER 3 1995

# OECD expects 10% | Bank accused of 'unsound practices' after \$1bn loss at New York branch

The US authorities severely

The Federal Reserve Board, the US central bank, and the New York State Banking Department jointly charged the Japaneae bank and its New York branch with violating banking laws and regulations. The charges reveal that the bank was told to tighten up its controls in 1992 and 1993,

Daiwa Bank's New York branch, was charged last Tuesday in connection with the losses, which accumulated over 11 years. He is accused of having sold bonds held by the bank and its customers in order to conceal losses sustained on trading, and then to have falsified records to cover up

Daiwa Bank, which had no comment yesterday, was accused of failing to inform the regulators of the possible criminal activity in a timely manner. Although Mr Iguchi confessed to Daiwa's bead office in Japan in July, the US authorities were not informed until September 18.

Daiwa to inform the supervisors

activity. The authorities said Daiwa may have knowingly submitted...a misleading and inaccurate report of the branch's condittoo as of June 30 1995".

Under an immediate "cease and desist" order, the bank will have to cut its trading to the minimum required to service customers and manage the risks associated with its current trading positions. It will also have to submit detailed reports to the authorities about its internal controls, appoint outside auditors, and refile all the regulatory reports back to 1984, the year when the alleged fraud began.

The temporary order will be reviewed at a hearing oo Decem-

ber 27. The hearing will be in public unless Daiwa can persuade the authorities this would be against the public interest. In a document outlining the

charges against Daiwa, the US authorities particularly criticised the bank for allowing Mr Iguchi to be responsible both for trading bonds and for custody of the securities - the so-called front and back office operations. In the charges, the Fed and the New York State Banking Department said the supervisors criticised internal controls at Daiwa

Bank's New York branch in November 1992 and November On the latter occasioo, the supervisors were "led to believe"

that Mr Iguchi was "no longer responsible" for both froot and back office activities. Yesterday's charges said the Fed now had "cause to believe" that the bank failed to make the changes. Under the temporary order. Daiwa Bank and its New York branch have 30 days to submit a

report on the actions takeo by them between the time they learned of the losses and the date they notified the US authorities. They also have five daya to

submit a written plan for the orderly reduction of the branch's trading activities. Daiwa may not do this by shifting business to its other US branches and it must give daily written reports of its

The failure to win over a french-led bloc, which is more reticeot about tha principle of free trade, could jeopardise bopes for an ambitious programme to revitalise the transatlantic alliance, in time for agreement at the EU snmmit in Madrid in December.

The Spaoish presidency bas made efforts to promote a oew vision for transatlantic relations, and was hoping to agree a programme before President Bill Clinton's visit to Europe in December. Although the 15 broadly

endorsed a paper put forward by

Sir Leon Brittan, EU trade commissioner, views differed on free trade and tariff liberalisation with the US, Canada and Mexico. Sir Leon sought to play down the difficulties, arguing that some EU members feared, wrongly, that ibe proposal for ariff reductions foresbadowed the launch of a new Gatt trade round. "A joint study does not imply a free trade area." he added. "It is a genuinely open study looking at its implications for a multilateral trading sys-

Other diplomats noted, bowever, that the proposal for a free trade area had mixed support in Washingtoo. The State Department is much more enthusiastic resentative's office is worried about negative reaction in Coo-

Mr Klaus Kinkel, German for eign minister, did not hide his disappointment at the failure to reach agreement yesterday. He urged EU partners to support strengthening relations with the

Cootinued on Page 16

# US orders crackdown on Daiwa

By Maggie Urry in New York

curtailed Daiwa Bank's activities in the US yesterday, accusing it of "unsafe and unsound practices" after last week's revelation of a \$1.1bn loss at the bank's New York branch.

bnt apparently failed to do so. Mr Toshihide Iguchi, a trader in US government securities at

buy Mobil

for \$1.2bn

By Laurie Morse in Chicago

\$1.27bn.

the world.

neco's sales by 2000.

and spun off all but 21 per cent of

Case Corporation, the Wisconsin-

based equipment manufacturer

which had been Tenneco's largest

subsidiary. Those disposals net-

ted more than \$1bn and put Ten-

neco in search of high-growth,

During the past 15 months.

Tenneco has made about \$1bn in smaller acquisitions and reinvest-

ments in the three areas it has

identified as growth platforms:

packaging, automotive parts, and

natural gas transport and mar-keting. Mr Dana Mead, Tenneco's

chairman, called the Mobil Plas-

tics purchase "the largest and

most important acquisition Ten-

neco has made in its major rede-ployment of assets." He also

hinted Tenneco had not com-

pleted its shopping spree and

that it boped to make a major

purchase in the automotive parts

industry before year-end.

non-cyclical reinvestments.

plastics

division

Banking regulations required

### Tenneco to Fresh wave of protests over French N-tests



Greenpeace activists occupying the roof of the French ambassador's residence in London yesterday as part of a series of protests by the environmental pressure group after the French carried out a second nuclear test in the south Pacific. Report, Page 6

### Hanson in talks to create integrated **UK** power company

By David Wighton in London

Hanson, the industrial conglomerate, is moving to create a third large, integrated electricity company in England and Wales alongside National Power and PowerGen. It is negotiating to buy three power stations for more than £1bn (\$1.5bn) to add to Eastern Group, the regional electricity company it bought for £2.5bo last month.

National Power unveiled its

£2.8bn agreed bid for Southern

Electric, the biggest of the 12 UK

regional electricity companies

PowerGen, National Power's

smaller rival, made a £1.9bn rec-

ommended bid last month for

another of the recs. Midlands

Electricity, and announced the

sale of two power stations to

If the Midlands and Southern

bids succeed and Eastern wins

the National Power auction, the

electricity industry in England

and Wales would be transformed

(recs) still independent,

Eastern for £400ml

Tenneco plans to pay \$500m in cash for Mobil Plastics, and National Power yesterday con-firmed that Eastern was one of finance the balance of the deal, three companies it had invited to about \$770m, through long-term make final offers for three of its debt in the commercial paper power stations, accounting for Mobil Plastics, which has also more than a quarter of its output. The announcement came as

undergone major restructuring in the past two years, is based in Rochester, New York, and bas 4,100 employees at 120 facilities in the US. It manufactures and markets well-known brands such as "Hefty" trash bags and "Baggies" food storage bags, produces containers for the take-out food industry, and also markets commercial packaging. Its businesses are less cyclical than PCA's commodity packaging operations. Although Mobil Plastics is mainly a North American company, Mr Mead said its products were suited for expansion into East Asia and Latin and Central

.9,10

American markets.

LIK News

grated companies with almost 60 per cent of the generation market and 30 per cent of distribution.

These moves partly reverse the separation of generation from supply and distribution ahead of privatisation. However, the distribution businesses which own the wires connected to customers will remain "ring-fenced" from the generating arms of the same groups, preventing abuse of local

If either of the other two bid-ders for the National Power stations - US energy groups Enron and Applied Energy Services were successful, it would become the third largest generator, excluding British Energy, the nuclear operator.

Eastern's planned acquisition of the two PowerGen atations would increase its share of the power generation market in England and Wales to between 6 and 8 per cent. If Eastern, the largest of the recs, were to buy the three National Power stations, its share could rise to an estimated 14 per cent.

National Power estimates its share will fall to between 20 per cent and 25 per cent next year

Continued on Page 16 Wave of UK electricity bids grows, Page 17; Lex. Page 16

by the creation of three inte-CONTENTS Share information \_\_\_\_25.27 FT Actiones . FT/SP-A Wid Indices.......34 Foreign Exchanges . Sources Int. Bord Service Inti. Cap Mics .

LOHDON - LEEDS - PARIS - FRANKFURT - STOCKHOLM - NEW YORK - LOS ANGELES - TOKYO THE FINANCIAL TIMES LIMITED 1995 No 32,796 Week No 32†

# Omega Constellation. Self-winding chronometer in 18 k gold. Swiss made since 1848.

OMEGA

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# Outsider takes third of Latvians' votes

In a bizarre and unexpected result, Latvian voters divided their support in weekend parliamentary elections almost evenly among an anti-Russian populist outsider, the ruling centrist party and the main leftwing party.

Published yesterday, the results of the weekend elections suggest turbu-lent days ahead for the small Baltic state as politicians try to piece together a coalition government out of the disparate parliament.

The biggest surprise was the strong support for the People's Movement for Latvia, known as the Siegerist party

a 48 year-old who has spent most of his life in Germany and speaks only halting Latvian. Mr Siegerist's party won 16 seats in the 100-member legislature, just two seats less than the leftwing Democratic party and one seat less than Latvia's Way, the centrist party which leads the coalition government that has ruled Latvia

The unexpected support for Mr Siegerist, who comes from a small town on the Danish-German border and moved to Latvia only four years ago. mirrors the popularity of populist political outsiders in other post-communist countries. In the 1990 Polish presidential elections, Mr Stanislaw

than a quarter of the vote.

Mr Siegerist's party played on the anti-Russian and anti-communist themes which are popular with a significant portion of the Latvian electorate, but the unconventional politician also employed unusual vote-winning strategies. He runs a charitable centre in Riga, the Latvian capital, which distributes free medicines to needy

Politicians from more mainstream parties warned that Mr Siegerist's strong showing would introduce a wild card into Latvian politics "It is very dangerous for democracy

Tyminski, a Polish émigré to Canada, if many votes are gained by parties upset expectations by winning more which are newly formed because there is no continuity or stability." said Mr Gundars Berzinsh, a member of the Farmers Union, the minority partner in the previous coalition gov-

> Mr Ziedonis Cevers, leader of the front-running, leftwing Democratic party, said it was impossible to define the Siegerist party because "it pledges both capitalism and socialism, a western orientation and an eastern orien-

Mr Siegerist's strong showing is also likely to inflame the passions of Latvia's ethnic Russian minority. Russians make up a third of the country's population, but strict citizenship laws mean many of them do not have citizenship or the right to vote. Mr Siegerist claims Latvian citizenship through his father, a Latvian soldier who served in the German army.

The leftist Democratic party also did better than expected, running on a platform diametrically opposed to that of the Siegerists. The party benefited from popular discontent with the country's painful transition to a market economy, which it has pledged to soften. Mr Cevers, the party leader, also yesterday stepped up his call for a relaxation of the country a citizenship laws to make it easiar for Russian to available. sians to qualify.

### **EUROPEAN NEWS DIGEST**

### EU agrees code on openness

EU foreign ministers yesterday agreed to a new code which would lift the veil of secrecy surrounding the Union's law-making procedures, despite Danish objections that the measures did not go far enough.

The code will restrict the power of the Council of Ministers. the EU's decision-making body, to keep secret minutes of meetings and to add unpublished amendments to laws. Under the new code, the release of minutes will still be at the discretion of the Council, but it should ensure the widest possible availability, save in exceptional circumstances.

The measures agreed yesterday mark the most serious effort. to date by the Council of Ministers to respond to public criticism that the EU law-making process is secretive and undemocratic. It follows presssure from Denmark, the Netherlands, the European Parliament, and latterly Sweden and the UK to open up procedures. *Lionel Barber, Luxembourg* Editorial Comment, page 15

### **Budget leak angers Olso**

The Norwegian government is refusing to comment on newspaper reports leaking details of the 1996 hudget to be unveiled tomorrow. The leaks have been so extensive that the government has asked police to investigate how the newspaper Dagbladet managed to obtain a copy of a document containing the main features of the draft budget. The ministry said it looked seriously on Dagbladat's article in which 'extensive information on the state budget" was published.

Dagbladet said the draft put state expenses at NKr383.2bn (\$57.7bn) and revenue at NKr373.8bn after a rise in offshore energy profits, and said the surplus, NKr10.6bn, would be put aside in the State Petroleum Fund. It said the proposed budget constituted a real growth of 0.5 per cent over the 1995 budget for which a deficit of NKr8.6hn was fixed.

### Bank hits at Hungary's taxes

Hungary's tax policies are unstable and contradictory and its heavy tax burden must be reduced to support economic growth, according to a new World Bank study. Payroll taxes are extremely high, discouraging employment and leading to evasion, the study says. Employers in Hungary pay social security contributions of nearly 50 per cent compared with about 31 per cent in western Europe and 26 per cent in the Czech Republic.

The bank says recent tax increases, needed to cover large and growing public expenditure, are "self-defeating" because they lead to less compliance and reduce the incentive to save and invest of those who comply. High taxes contributed to a "hostile" environment for private-sector development while recent revenue strategies, involving frequent changes, were "short-sighted" and created uncertainty. Above all, the government needs to reform spending if the tax burden is to be reduced substantially,

### UN claims Croatian atrocities

UN officials said yesterday that 10 elderly Croatian Serbs were murdered in a village captured by Croatian army troops and warned that Croatia is conducting a systematic campaign of killing and looting against Serbs.

The claim is the most recent in scores of allegations that

Croatian troops committed, and are continuing to commit. atrocities against the Serbs who remained in Croatia after the government launched "Operation Storm" in August. Just 2,000 Serbs - ont of 150,000 strong community - have remained in their homes after Zagreb over ran the self-styled Serb state of

"Eight weeks after the Croatian army took control of the Serbian Krajina, widespread reports and observations document a systematic campaign of arson, killing and looting," said Mr Alun Roberts, the UN spokesman based in Knin, the centre of captured Serb Krajina. "This will open the box – where all the dirty laundry is hidden." said another UN official, speaking on condition of anonymity. "This is a big cover-up. Helicopters were used to take out the bodies which would have to mean the army was involved." The Croatian government so far has denied complicity in the numerous crimes, including the torching of up to 60 per cent of houses owned by Serbs. Laura Silber, Zagreb

### Swiss finance minister named



Mr Kaspar Villiger (left) has become Switzerland's finance minister following a cabinet shuffle on Sunday that saw three portfolios change hands. Mr Villiger's former portfolio, defence, has been taken over by Mr Adolf Ogi, the transport and energy minister, and the transport ministry by Mr Moritz Leuenberger: Mr Leuenberger, a Socialist from Zurich, was elected by parliament to the cabinet last Wednesday following the retirement of Mr Otto Stich. the former finance minister and also a Socialist. Under Swiss practice, the

seven-person cahinet decides collectively the allocation of portfolios. There was considerable tension leading up to the shuffle because Mr Ogi did not want to move, and the conservative and liberal parties did not want a Socialist in the finance ministry again or in the defence department. Mr Ogi ultimately gave way, he said, to preserve cabinet unity.

Mr Villiger, a businessman who managed his family's cigar and bicycle company until joining the cabinet in 1989, won universal respect for designing and implementing a radical restructuring of Switzerland's militia army. As finance minister, he is expected to continue to put the emphasis on deficit reduction. The federal government's deficit is budgeted to reach SFr6.5bn (\$5.4bn) his year. Ian Rodger, Zurici

### Volgograd returns Communists

The central Russian city of Volgograd overwhelmingly supported Communists in municipal elections held over the weekend in a further sign of public discontent with the national government.

According to unofficial reports, the Communists have won between 20 and 22 seats in the 24-member Volgograd city

Analysts have interpreted the results as the latest indication that the current government is heading for a serious defeat in December's parliamentary elections. The Volgograd vote appears to confirm the pro-Communist, anti-Yeltsin trend suggested by opinion polls and other regional ballots. In a gubernatorial race in the Urals this summer, Mr Eduard Rossel, an long-standing critic of Russian President Boris Yeltsin, beat the Moscow-backed incumbent.

Observers attribute the growing popularity of communists and hardline oationalists sometimes allied with them to widespread discontent with the painful side effects of Russia's shift to a market economy. Chrystia Freeland, Moscow

### Dalmine management reinstated

An Italian court has reinstated senior management at Dalmine, the state-controlled Italian steel company which is the subject of an investigation into allegations of false billing. The court in Bergamo, near Dalmine's headquarters in northern Italy, revoked an order issued by prosecuting magistrates in August, which suspended Mr Sergio Noce, the chief executive, and Mr Carlo Jachia, marketing director, from office. Their lawyers argued that the order was unjustified because the two directors were not involved in alleged false

### Airtel is first rival for Spanish telecoms giant

By Tom Burns in Madrid

Two men in hard hats walk away from a construction site at the end of a day's work and one, as he reaches for his mobile, says "at last we can choose". The television advertisement is selling a new cellular phone service but as the camera pans to horizons, sunrises and rainbows, It is also delivering a message about choice to a Spanish public reared on

monopoly services.

The service, called Airtel, is a private sector GSM (Global System for Mobile Communications) network that gained its licence after a hotly contested bidding process at the end of last year. It is being launched today to compete with Telefonica. Spain's partly privatised telecommunications giant that has the Finance Ministry as its

largest single shareholder. Airtel's chalrman, Mr Eduardo Serra, says that with the development Spaniards have gained a new liberty". It is also a freedom that Spanlards have had to wait for, in part to protect Telefónica's home market - Spain is gain-ing a GSM service up to three years later than its European

It is estimated that the 700,000 mobile phone users in Spain who currently use the

minister, said on French radio

the year would not exceed

FFr322.6bn (\$63.5hn). He said

would need to follow.

yet been taken.

inferior analogue system that is provided by Telefonica will grow – thanks to the new digital technology - hy 24 per cent annually over the next 10 years to total more than 6m.

Cracks in Telefónica's monopoly hegan to appear two years ago when the government deregulated the domestic data processing sector. For the wider public, telecommunications choice starts with the launch of Airtel.

Telefónica has already had to cut tariffs and announce plans for Internet links

The new GSM service represents the biggest liberalisation step before the total deregulation of the domestic sector in 1998, when the government plans to award a licence to a second basic telephony opera-

What the domestic public has already gained is competi-tive prices. Telefonica, which launched its own GSM service in July, has reduced its mobile tariff charges in the past week in order to bring them into line with the cheaper service that

France may issue bonds to

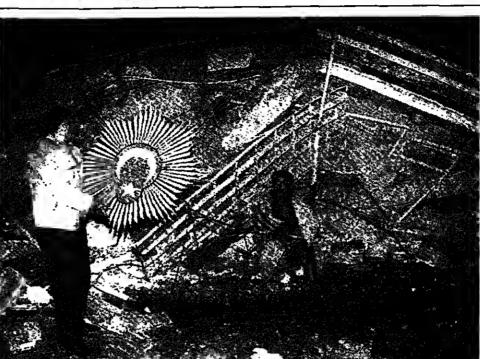
cut social security deficit

In addition, Telefónica has stoleo a further march on Airtel by announcing that it will hook its GSM clients into the Internet before the end of the year. The cyberspace possibili-ties had been one of the sales pitches planned by its private

sector rival. Telefónica also starts with powerful advantages. It has a well-developed digital system that offers, at present, 80 per cent coverage of the popula-tion, compared to Airtel's 35-50 per cent and strong sales and distribution networks.

The upshot is that Airtel's blow for freedom of choice could prove a costlier chal-lenge than expected. The company, which counts major domestic banks as well as Air-Touch of the US and BT among its shareholders, paid Pta85bn (\$680m) to obtain its licence and has already spent Pta120bn out of an overall investment of

"Our rule of thumb is that the GSM market will be split 50-50 between Telefónica and Airtel," says Luis Prota a tele-coms analyst a AB Asesores, the blg Madrid securitles house. "But in the short term Telefónica is likely to have a 70 per cent quota of the market and it should be able to hold



Survivors of Sunday's earthquake in the south-western Turkish town of Dinar search through a collapsed building. The death toll yesterday rose to 42 and 200 other people were reported injured, Reuter reports. The minister of quake.

honsing, Mr Halil Culhaogin, has predicted that the final death total could be around 100. News agencies reported that 4,000 bouses had been destroyed and 1,000 others damaged in the

# Russians harvesting the

By John Lloyd In St Petersburg

reforms, and by the high infla-

economic policy.

A conference of Russian and foreign researchers brought together in the Russian European Centre for Economic Pollcy (RECEP) in St Petersburg last weekend highlighted a range of issues now causing or about to cause serious upheavals in the economy and in society. Though unavoidable if success is to be consolidated, their appearance at a pre-election period will further strengthen the attraction of those forces which argue that reform has so

Unemployment, for long thought to be uniquely low among economies in transition, is now growing fast and in some areas is huge. Figures from a new survey by the state agency Goskomstat show a national level of 7.7 per cent -

The most recent research shows that unemployment, open and hidden, is more than

Russia's banks, still shaky from recent shocks, are likely to get worse before they improve. A study for RECEP by professors Daniel Cohen and Gael de Pontbriand highlights the dependence of the banks on arhitrage and other forms of income derived from a

high-inflation environment. It also shows that the best enterprises have weaned themselves from dependence on banks, leaving the banks' debt portfolios skewed towards the poorer enterprises most likely

Prof de Pontbriand said the widespread use of promissory notes, largely unregulated by the central bank, also posed a threat to the banks of wideof income they developed in them towards areas in which where they are weak."

Russian enterprises have in

become greatly undervalued. Research by Mr Dirk Willer and Mr Roland Nash shows tha top 200 companies to have, in June 1995, a market capitalisation of \$22bn - slightly less than Dahnler Benz.

The undervaluing, according to Mr Nash, stems largely from a perception that shareholders have few and unenforceable rights, and from a fear that the government's efforts to stahllise the economy will fail. However, there are already

some successes. In research on inter-enterprise debt - once thought to threaten the very viability of Russian enterprises - Mr Peter Oppenheimer says the problem is no longer one affecting the whole economy, hut is concentrated in certain unprofitable sectors, and is tending to decrease even there. Professor Charles Wyplosz,

now attempting to construct a macro-economic model for the economy, said that it was now tending to shed its dependence on dollars as the rouble remains stable and is seen as a more reliable store of value.

inflationary strategies is helping the poor. A paper by Mrs Brigitte Granville and Ms Jodith Schapiro shows that every 1 percentage point off the annual rate of inflation takes 0.5 per cent of the poor

Lukman, director of Slovenia's

Office for European Affairs, says: "We would be ahla to influence decisions about ques-

tions such as ecology, trans-

Unlike most east European

port and communications."

### sion fund system would not come before reform to the However, the pledges have By Andrew Jack in Paris come before reform to the The French government is been met until now with some existing systems of social secnconsidering launching an issue rity and welfare contributions. scepticism by the analysts and of government bonds to try to He criticised the tendency of the financial markets. The the French always to expect Organisation of Economic reduce the social security defi-Co-operation and Development cit to zero over the next two tax breaks to accompany any pointed out in a report late last types of investment in which Mr Jean Arthuis, economics they placed money, reflecting

his decision in the 1996 budget

last month to clamp down on

to FFr30bn next year and zero

a new bond issue was "probable" next year, while stressing that a final decision had not fiscal benefits for those paying life assurance premiums. The government is consider-He warned that the 1995 buding a loan in order to achieve get was short by FFr30bn-35bn the objective of Mr Alain on projections made for Juppé, the prime minister, to receipts in late 1994, but cut the social security deficit from its projected level of FFr60bn at the end of this year stressed his commitment to ensuring that the deficit for

he had already frozen FFr10bn The reduction is part of in credita pledged and more wide-ranging efforts to introduce tighter financial disci-In an interview in the pline so France can meet its objective to cut the budget def-French press yesterday, Mr Arthuis also said that any icit to 3 per cent of GDP by 1997, as part of the Maastricht

by the end of 1997.

month that France had in the past exceeded its target for the hudget deficit.

In further indications of the difficulties the government will face in attempting to cut public spending, Mr Marc Blondel, head of Force Ouvrière, one of the leading trade unions, yesterday criticised the idea of new bonds to cut the social security deficit. He said the system should

not be made more fragile through the additional interest that the loans would demand. Force Ouvrière is among the unions organising a strike in the civil service and public sector companies scheduled for

# bitter fruits of reform

Russia's success in\_fighting inflation and stabilising Its economy is now bearing fruit –
but much of it is bitter. The
relatively tough discipline
exerted by the Ministry of Finance and the Central Bank it is more than 50 per cent. is forcing into the open crises masked or delayed by the stop-go nature of previous tion and lack of regulation that has been the mark of Russian

far heen both chaotic and cruel.

to default. spread inability to repay. He said: "The tighter regime now being followed deprives the banks of many of the sources inflationary times, and forces they should be working hut

with a further 6 per cent hid- the process of privatisation above the poverty level.

# Finally, the success of anti-

# Slovenes consider becoming eastern Swiss

Tension with Italy has reduced the appeal of EU membership, but perhaps Switzerland offers a model

100 -



made such economic progress since

Yngoslavia

that the coalition government of Dr Janez Drnovsek says it deserves to be among the first wave of east European countries to join tha European Union. But the tortuous process of reaching an association

ond Switzerland. With GDP per capita of \$7,000 in 1994, Slovenia is eastern Europe's most developed country and has resolved almost all the economic problems it inherited after breaking away from Yugoslavia in June 1991. Inflation has been cut to 11 per cent, foreign debt service absorbs a mere 5 per cent of export earnings and the economy grew 5.5 per cent in

agreement with the Union has

led to disillusionment and calls

for Slovenia to become a sec-

Indeed, if this economic growth continues, living atandards in Slovenia should pass both Greek and Portuguese levels hy the end of the decade. By the time Slovenia joins the

Slovenia has EU, there could be at least six poorer members competing for

> exports for a country that already sells two-thirds of its exports to the EU; and with the UN arms embargo hampering attempts to build up its armed forces, membership would also bring a feeling of security to a country lying uncomfortably close to the war in former Yugoslavia.

Yet a growing number of Slovenians question the wisdom of heading for EU membership. even if no mainstream political Europe similar to Switzer-

opinion in Slovenia, and Ied the government to tone down much of its pro-EU rhetoric. has been a bitter dispute with neighbouring Italy over tha rights of Italians whose property was confiscated after the second world war.

is a continuous bargaining, often entirely without principle, of interests." Slovenia'a association agree-

Membership would boost

Although Slovenia has now agreed to amend provisions in

party articulates this view. Many people yearn instead for the country to play a role in land's: open to trade but aloof when it comes to diluting the country's culture or selling assets to foreigners. But what has enraged public

Although Yngoslavia had

agreed in two treaties signed in 1975 and 1983 to provide cash

compensation, in 1994 the Ber-lusconi government declared this was no longer acceptable. It called for the property itself to be returned and blocked the opening of negotiations on Slovenia's association agreement with the EU until March this

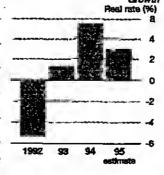
its constitution banning foreign ownership of real estate, the incident has not just soured Ljnbljana's relations with Italy. It has also shattered its somewhat romantic viaw of the EU, as Dr Drnovsek indicated in late August in a speech at the European Forum in Alphach, Austria: "Italy has now reopened issues which belong in history . . . the Italian demands have aroused the feeling that in fact not much has changed in Europe. In Slovenia we realised with considerable surprise that the EU is in fact far from some ideal democratic association such as we imagined in the past. "We realised within it there

ment was agreed in principle

1992 93 94 until parliament approves the amendment to the constitution. The trade agreement will

Slovenia: getting ready for the EU

Slovenia agreed in 1993. While most east European countries have been given six years to open their markets to competition, in its association agreement Slovenia will lower barriers for most industries within three to four years. This will be a big test for the country's industry, which bas began the process of restructuring but is still not yet priva-



come into force on January 1 1995, snperseding an EU co-operation agreement that short-term intensity of the dispute with Italy.

Indeed, the fact that the country is overwhelmingly a mannfacturing economy strengthens the case for full membership, as many of the country's key industries, such as pharmaceuticals and wood products, are directly affected by EU legislation. Dr Benjamin

Unlike several other east European countries, Slovenia has not yet formally applied for full EU memhership, although the government regards this as the logical consequence of its planned association agreement despite the

countries. Slovenia is unlikely to face adjustment problems in agriculture, which accounts for only 5 per cent of GDP. What could delay the country's accession to the EU, according to one foreign diplomat, is the state of government institutions. With only four years as an independent state, Slovenia

that the government has started refining their role. Dr Lukman, whose office in the Foreign Ministry was established only in March 1995, admits that there needs to be more co-ordination and awareness of the EU within the government. "Each ministry should have its own department looking at European affairs," he says.

has had to build up the institu-

tions of a nation almost from

scratch and it is only recently

Gavin Grav Previous articles in this series appeared on July 10 and 19, August 2, 9 and 15 and Septem-

# code Portugal hopes for Socialist stability

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TOCTOBLE

Portugal'a decisive swing to the Socialist party (PS) in Sunday's general election probably had as much to do with fears of instability as with the choice of policies on uffer. Many voters appear simply to have opted for the party they thought most likely to win. A photograph in the Portu-

guese daily Público in the last days of the campaign expressed the apparent fickleness of much of the middle-of-the-road electorate. A man at a fruit-stand was wearing an apron with a Socialist party slogan, halding in one hand a flag with the symbols of the centre-right Social Democrat party (PSD) and in the other a bunch of hananas. The caption described bim as an "undecided" voter.

At least a fifth of the Portu-

By Peter Wise in Lisbon

THE FINANCIAL TIMES

In place of a police outrider, a

television reporter perched on

the pillion of a powerful motor-

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PORTUGUESE ELECTION Percentage of vote Socialist party PSD (centre-right) 50.6 135 34.0 CDS/PP (conservation CDU (Communist-led) Others Latest projection

from the last general election four years ago, when the PSD government of Mr Anibal Cavaco Silva won a second consecutive majority. When Mr Cavaco Silva decided to stand down this time, he may well have calculated that another majority was out of reach. His withdrawal - presumably to give him a clear run in the contest for the presidency next year - only com-pounded the damage done to the PSD government by recession and corruption scandals. The Socialist victory was

cycle pulled alongside Mr

Antônio Guterres's limousine

as he sped to a rally marking

his triumph in Sunday's gen-

As the mobile interviewer

dangled a microphone through

the car's rear window, the

Socialist (PS) leader coolly

maintained his poise, speaking

with aplomb of his heavy res-

ponsibilities as Portugal's

He has travelled a long way

in a short time. Only months

ago, tha 46-year-old Mr Guterres, who has never held a

government post and has led

his party for little more than

three years, was prone to lose

some of his assurance in public

- despite being an expressive

speaker with a gift for improvi-

On one occasion, which he

describes as an invaluable les-

son, he made the mistake of

attempting unsuccessfully to

calculate 6 per cent of GDP on

television. As an honours grad-

uate in electrical engineering,

it was his experience not his

future prime minister.

eral election.

expected. The party is expected to increase its number of seats by more than half to 112, just four short of an overall majority in the 230-member parliament. For once, the result vindicated the opinion polls, which in 1991 underestimated the PSD's performance.

Almost 20 years after getting a new democratic constitution, Portugal seems to bave settled into a system in which the two main parties of centreright and centre-left can alternate in power without trauma. guese electorate changed sides bigger than most observers sions agreed yesterday that a

new cycle had begun. The country bas put bebind it the Cavaco Silva era of unprecedented stability. After the 1974 revolution no government bad lasted a full term; Mr Cavaco Silva's did it twice.

**NEWS:** EUROPE

At the same time the Socialist party, modernised and committed to free-market policies, including privatisation, bas proved there is life after Mr Mario Soares, lts founding father. Mr Soares served twice as prime minister hefore dropping his party role to become president almost 10 years ago.

Unexpectedly, the Socialists won more seats than the PSD and the conservative Popular party together. This crucially affects the prospects for Mr António Gnterres's minority government, which will not have to seek support from the bardline Communists to out-vote the combined forces of

The government's pro-

gramme - which under Portugal's painfully slow investiture procedure is not due fur debate until early next month - is expected to be nodded through.

A 1996 budget, largely following the lines inherited from the nutgoing government, is also thought likaly to be passed without misbap. However, a crunch could come a year from now with the budget for 1997, when the government has to hit a deficit target of 3 per cent of GDP if Portugal is to qualify for the European single currency in 1999.

Outlining hopes for "a new political culture" Mr Guterres bas appealed for belp from opposition parties and bas promised to listen to them. "Change does not mean destroy," he said after his victory was confirmed. Opinion surveys showed most Portuguese favouring a majority

Among business leaders and investors. party preferences were less important than baving a stable government.

Financial markets reacted positively, although not ecstatically, to the result Lisbon's stock index rose 0.6 per cent yesterday to 1,275.07, and the escudo was slightly firmer against the D-Mark.

The Socialists came first in all hut elgbt of 20 electoral districts on the mainland and

Four years ago, they led in none. The PSD, meanwhile, saw its support fall from almost 3m to 2m, while the Popular party pipped the Communists for third place.

Mr Guterres, although falling short of a majority. appears to bave got across his message that the Socialists were the only party with a

### the Social Democrat party, is scheduled to present the hudget in the parliament on Octo-ber 18. uses a pink rose, bas found a leader who embodies the aspistitution is October 22, 10 weeks before the start of the rations of a younger genera-

tion of Socialists. The party

believes that bigher social of the budget process would spending and a caring state are sbake the financial markets' not incompatible with fiscal confidence in the schilling, discipline and privatisation. which is pegged to the D-Mark. His test will he to make that Budget negotiations have programme work. often been tough and the strin-His social concern is rooted gent convergence criteria for European economic and monein religious belief. He is a practary union have made agree-

tising Catbolic who, after social work in shanty towns as a youth, chose politics rather than the priesthood as a way of helping the under-privileged. For all his fluency, Mr Guterres sees himself as an accomplished listener - a qual-

ity perhaps reflected in his love of opera. "Winning an election does not mean you are always right," be said yester-day. "Others' opinions must always be taken into consider-

Opponeots say an expected search for consensus on government policy is likely to hamper Mr Guterres's decisionmaking capacity. But Sunday's vote shows that most Portu-

### budget crisis key constituencies. The budget presented by Mr Staribacher The Austrian People'a party relies primarily on higher yesterday pulled back from taxes and receipts from privatithreatening the collapse of the sation to narrow the 1996 fiscal deficit to Sch93bn (£6bn) from country's coalition government Sch104bn this year. when it agreed to resume the Mr Schüssel bas rejected drawn-out negotiations over

Austria again

tries to solve

By Eric Frey In Vienna

The government was endan-

gered last week when the

Social Democrats (SPOe) and

the conservative People's party

(OeVP) failed to meet their

self-proclaimed deadline to

complete the 1996 budget by

But yesterday the party

chairman, Mr Wolfgang Schüs-

sel, said he wanted to continue

the budget negotiations later this week. The finance minis-

ter, Mr Andreas Staribacher of

The deadline set by the con-

new fiscal year. A breakdown

ment even more difficult.

since 1945.

benefits.

But veterans of previous

budget battles say that they

two main parties which have

dominated Austrian politics

The main source of friction

is the desire of the OeVP

to use the austerity measures

required by the Maastricht

treaty to tackle the

system of social security

have never seen such discord and even dislike between the

the hudget.

Sunday nìght.

these proposals and at one point even took a paper by Mr Staribacher and tore it apart in front of the cameras.

Mr Schüssel and his economics minister, Mr Johannes Ditz, also publicly questioned the validity of Mr Staribacher's budget data. They may have a

Mr Staribacher insisted for weeks that only Sch30hn in additional funds was necessary to reach the target, but later had to admit that the gap was actually closer to Sch50bn.

Mr Staribacher's sbaky performance is an emharrassment for Chancellor Mr Franz Vranitzky, who plucked the young tax accountant from obscurity early this year and put him in charge of the budget process.

Though the SPOe party congress yesterday re-elected Mr Vranitzky as chairman - with 91 per cent of votes - be is under growing criticism from within his party. SPOe slumped to a post-war low of 35 per cent at the elections a year ago and is now bovering around 30 per cent in some opinion polls.

In contrast, the OeVP has seen its prospects improve since Mr Schüssel took over from his predecessor, Mr Erbard Busek, six months ago. Mr Schüssel has caught up

with Mr Vranitzky in popularity and observers say he may want to risk the chance of new elections to become chancellor

But the main winner in new In particular, the OeVP elections is likely to be the wants to reduce early retireright-wing Freedom party of Mr Jörg Haider. ment by imposing a "penalty His party has capitalised on tax" on pensioners below the

the squabbles in the government, and on public discontent with the established political structures, to rise to almost 30 per cent in the latest opinion

# Guterres promises to be a priestly PM

decade by Mr Anibal Cavaco Silva, the outgoing prime minister, politicians are predominantly young and untried in to describe him as "an illustri-

mental arithmetic that was in Opponents have gently question. But in a country that mocked Mr Guterres's claim to emerged from dictatorship be on close terms with six European prime ministers as only 21 years ago and that has gauche. But his energetic lead- Britain's Labour party. In been dominated for the past

Prime minister-elect António Guterres vesterday pledged to listen to the views of opponents

ership of the opposition and vice-presidency of the Socialist

International make it difficult ous unknown", the label once attached to Mr Cavaco Silva. Mr Guterres's triumph is likely to be an encouragement for Mr Tony Blair, the leader of

opposition to centre-right governments, both leaders bave sought to bring their parties behind free-market, pro-European policies, while promising more concern for the poor and excluded.

In Mr Guterres, the PS, which once rallied to the symbol of a clenched fist but now

age of 60, to cut some unemployment benefits and to guese voters were clearly looking for someone with a impose higher charges for hossympathetic ear for their probpital treatment. The SPOe regards these prolems. He now has to show that posals as a brutal assault on its he also bas the solutions.

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tory and modern

amenities, Montreal can justify

claims to he one of North

How then, does one explain

that there are more vacant

newly built homes in Montreal

than the entire neighbouring

province of Ontario; that the

178-year-old Bank of Montreal

has moved its executive offices

to Toronto; and that some

international airlines have

recently halted service to the

world's biggest French-speak-

No single cause or event can

be blamed. But most Montreal-

ers would agree that uncer-tainty ebont Quebec's future in

Canada has not done their city

Montreal's business leaders

are crossing their fingers that

the political clouds will lift

after October 30, when Quebec

holds an independence referen-

dum. Opinion polls – including several published over the

veekend - point to a comfort-

able victory for the No side.

A strong No vote is assured in Montreal. More than a quar-

ter of the metropolitan's 3.2m

residents are eithar descen-

dants of English-speaking fami-

As Quebec's commercial cen-

tre, the city would suffer most

heavily from a breakaway. A

lies or recent immigrants.

ing city after Paris?

much good.

America'a great cities.

# Dole and Gingrich differ over tax cuts

By Jurek Martin in Washington

The Republican leaders of the House and Senate are at odds over the magnitude of the tax cuts due to be passed within the next six weeks.

In weekend interviews, Senator Bob Dole, the majority leader, and Congressman Newt Gingrich, Speaker of the House, reflected the divergent views of their chambers.

Mr Dole said he was "not cer-tain at this point" whether the tax cuts would reach the \$245hn previously agreed between House and Senate. But Mr Gingrich, countering that it was "virtually impossible" that a smaller tax cut would be accepted in tha House, called on the Senate to live up to the bargain.

The Speaker took some potshols at the Republican Senate leaders, including Mr Dole, and said that it was inconceivable that House members would "walk away" from the Contract with America platform on which they were elected last vear.

The majority leader's caution oo tax cuts reflects the reservations of several senior. Republican senators not normally classified as party moderates. They include Senators



Al D'Amatao of New York. Orrin Hatch of Utah, Alan Simpson of Wyoming and Pete Domenici of New Mexico.

However, as a presidential candidate, Mr Dole may also be concerned about the impact of the Clinton administration's campaign which argues that cuts in the Medicare and Medicaid health programmes for the elderly and poor are explic-

tax cnt for hetter-off

In his regular weekend radio broadcast, President Bill Clinton rammed home this charge, adding that the Rapublican plan for Medicaid meant that older and poorer Americans could find their meagre parsonal assets seized to pay for nursing home care.

Senator Tom Daschle, tha minority leader, was equally blunt, saying, "To pay for a tax cut for the wealthy out of a pool of resources for Medicare is wrong.

Congress is in recess this week and members will doubtless use the break to go home and assess the shifting sands of public opinion on reforms of the Medicare and Medicaid programmes. The Republicans intend to cut a total of \$450bn from the projected budgets of both during tha next sevan

The Congressional Budget Office analysis of the Medicare blueprint found it was possible to achieve most of the planned savings, hut that the overwhelming costs would be borne by individuals paying higher premiums and other costs and by reduced payments to those

ith its European steady exodus of companies and talent and talent has taken place since Quebec's first separatist government was elected in 1976. A Frenchonly language law, passed in the late 1970s, helped drive

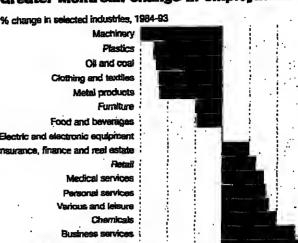
away thousands. Some of Canada's bestknown companies, such as Canadian Pacific, Alcan Aluminium, Royal Bank of Canada. Bank of Montreal and BCE, still maintain their head offices in the shadow of Mont Royal. But as an executive at one of these companies puts it, Their commitment to Montreal is not what it used to be.

Politics cannot be hlamed alone. Montreal's industrial hase has heen eroded by the closure of oil refineries, petrochemical and steel plants, and textile factories. The growing importance of trade across the Pacific has drawn traffic away from the St Lawrence River.

Heavy job losses among rela tively old workers with little education have led to a degree of poverty and decay found in few other Canadian cities. While Montreal has a smaller population than Toronto, it has almost 14 per cent more unemployment insurance claimants.

The picture is not altogether gloomy. Montreal has made the most of its assets. The fur trade, which gave the city its start as a commercial centre in

Greater Montreal: change in employment % change in selected industries, 1984-93



the early 18th century, has

Montreal fights independence claims

given way to a flourishing fashion and design industry. The ability to conduct business in French has proved to he an asset rather than a liabil. ity for many companies. With many French-speaking workers and gradnates choosing to remain within their own milieu, labour turnover is low. Some 40 per cent of the MBA

students at McGill University speak three or more languages, and another 20 per cent are bilingual. According to Ms Sylthe Montreal Urban Community's economic development office, potential investors used to enquire at length about the

issue." Ms Mercier says. Meanwhila, generous govern-ment incentives and a plentiful supply of graduates from the city's four universities have sown the seeds for a blossom-

differences between French

and English-speaking Canada.

Now "they hardly raise the

Bernard Simon examines the dangers of division facing one of North America's great cities ing high-technology sector, hased mainly on computer soft-

ware and pharmaceuticals. Political concerns have not prevented several foreign companies expanding their presence. Ericsson, the Swedish telecommunications equipment maker, chose Montreal three years ago as the research and design centre for all cellular phone software using North American standards. Erics. son's Montreal-based workforce has ballooned from 30 to

750 in the past decade. Rolls-Royce, the UK aircraft engine maker, and Merck Frosst and Astra Pharma, two multinational pharmaceutical groups, are among other foraign companies that have built new facilities in recent years. Mr Lionel Hurtubise, chairman of Ericsson's Canadian snbsidiary, says that "Montreal is a good halfway house between Stockholm and Dallas

(whare Ericsson also has a large operation)." According to Mr Hurtubise "If Quebec did separate, we'd have a serious issue." But he doubts that will happen. For the time being, he concludes, remaining in Montreal has "very little downside". In fact, the federal government is said to be toying with a plan to try and revive the city's fortunes provided the federalist camp

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### Manufacturing survey shows US economic growth

By Michael Prowse in Washington

The US economy is rebounding hnt growth is unlikely to be rapid enough to put upward pressure on inflation, figures indicated yesterday.

The purchasing managers' index - a guide to the health of manufacturing industry rose to 48.3 per cent last month against 46.9 per cent in Angust. However, it remained below the SO per cent level predicted by many economists
- the level widely regarded as
marking the threshold for

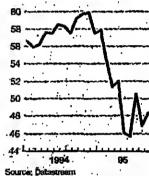
growth in the sector. Department reported flat per-sonal incomes in August. Consumer spending rose 0.8 per cent in real terms from July more than expected. However, data for July was revised down to show a decline of 0.3 per cent. Growth of consumption is expected to be constrained in coming months by the low savings rate.

Construction spending was

also weaker than expected, falling 0.2 per cent in August after a robust increase in July. The purchasing survey indicated that manufacturing industry has not yet recovered fully from its troubles earlier this year when excessive levels of inventories prompted cuts in prodoction and employ-

ment. The index has been

US Purchasing Managers' Index



Separately, the Commerce below the 50 per cent threshold for growth in four of the

Components of the overall index painted a mixed picture. Indices for production and new orders edged above 50 per cent, indicating slnggish growth. However, the employment index continued to signal a contraction of the manufacturing workforce. The index for new export orders fell from 54.7 per cent to 52.9 per cent, the lowest level in two years.

The inflation outlook, bowever, remained encouraging. "Only 14 per cent of purchasing executives reported higher prices in September," said Mr Ralph Kauffman, a spokesman for purchasing managers. This was the lowest proportion since December 1992.

### Argentina plans Falkland oil tax

By David Pilling in Buenos Aires

Argentina yesterday announced proposed rules for companies wishing to explore for oil in the South Atlantic. ona day before the launch in London of the Falkland Islands government licensing round. Although Argentina has no

power to auction blocks in waters around the Falkland Islands, which are controlled by Britain, Buenos Aires said yesterday it intended to charge companies a levy of up to 8 per cent of any oil revenues.

it would also collect an exploration fee based on the size of individual blocks, foreign ministry officials told more than 40 Argentina-based oil companies yesterday.

Although Britain and Argentina signed an oil co-operation agreement in New York last week, they failed to resolve the issue of royalties, the collection of which impinges on sovereignty. Instead they reached a tacit agreement enabling each country to collect fees, while officially denving the right of the other side to do so.

If the Falkland Islands government round establishes a 9 per cent royalty, as expected, the deal would effectively provide for a 75:25 division of revenues in Falkland waters.

Mr Guillermo Gonzalez, Argentina's principal negotia-tor in oil talks with Britain, spelled out the position of Buenos Aires yesterday. The Republic of Argentina does not recognise the right of the UK

to organise a licansing round... However, if Argentine companies want to participate in a round that we do not recognise, that is a business decision." he said.

Mr González made it clear that Argeotina would turn a blind eye to company partici-pation in the Falkland Islands government's round, as long as it paid levies set by Argentina. Companies refusing to do so would face "severe sanctions". A British Foreign Office

spokesman said yesterday: "If companies operating in Argentina and who participate in the oil licensing round wish to pay taxes to Argentina that is their

In practice Argentina could seek its 3 per cent levy for the use of onshore facilities, which most operators are likely to

Some oil executives at yesterday'a Boenos Aires gathering expressed concern at how the "dual framework" would work in practice. How would companies know for example, Whether British or Argentine safety and environmental standards were to apply?

Meanwhile, exploration blocks in the less contentious co-operation zone, a 20,000 sq km area to the south-west of the Falklands, would be auctioned off by the Hydrocarbons Commission in the "next few months", the foreign ministry said. The joint commission is expected to divide royalties 50:50 from this zone, which includes waters claimed by

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# of criticism

France sparked a further barrage of criticism from its EU partners as well as its critics in the Asia-Pacific region yesterday as it exploded its second nuclear device in the South Pacific.

Nine EU member states, led by the Nordic countries, spoke out against France at a meeting of EU foreign ministers in Luxembourg. The UK, a fellow member of the ouclear cluh, also began to retreat discreetly from its explicit support of French President Jacques Chi-

An EU diplomat confirmed

that opposition to French tests risked polaristog the union and contaminating other sensitive areas of debate, particularly future efforts to construct a common defence policy. "It's basically 14 against one," he said. Austria, Belgium, Denmark, Finland, Greece, Ireland, Luxembourg, the Netherlands and Sweden all actively spoke out at the meeting.

In Paris. however, the Defence Ministry, unlike it5 media blitz after the first test last month, observed a diplomatic silence, adding nothing to a four-line statement announcing the blast had been carried out under the Fangataufa atoll at 00,30 Paris time on Monday (23.30 GMT on Sunday). In contrast to other French tests aimed at examining reliability of existing weapons or improving the technique of simulating future tests, Sunday's underground explosion was a final check of a new sub-

marine missile warbead. Mr Malcoim Rifkind, Britisb foreign secretary, said in Luxemhourg that it was important

to remember the French government's pledge to support a "zero option" on nuclear testing but added that it was up to France to justify its decision. Asked if the Freoch decision risked upsetting EU business. he replied: "Yes there is. That is obviously something France will wish to reflect upon."

Mr Niels Helvig Petersen, Danish foreign minister, said he welcomed the more critical British attitude, adding: "Those who kept silent did not do so because they support the French nuclear tests but because they do not want to criticise a friend and ally." Both Russia and the US, two other nuclear powers, said yesterday that they regretted the French test.

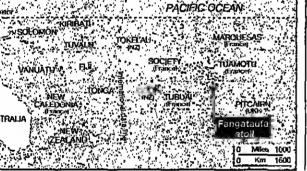
However, Mr Hervé de Charette. Freoch foreign minister. denied that France was virtually isolated and criticised the environmental organisation Greeopeace and the media for exaggerating the ouclear issue. I don't think there is any damage to French diplomacy."

In the Asia-Pacific regioo. criticism of France's renewed testing continued unabated. In Japan, Foreign Minister Yohei Kono told Mr Jean-Bernanrd Onvrieu, the French ambassador, he "strongly regretted you do not under-

stand Japan's consistent posi-

tion on this matter" and urged

France halt the testing. jIn Australia, Prime Minister Paul Keating said his country's efforts to press the French to halt its programme would be 'unceasing and unrelenting". adding that talks with others countries in bringing a resolution before the United Nations General Assembly were "well-



# French N-test | Japan's big money arcade prompts wave game lures a youthful punter

Michiyo Nakamoto reports on successful attempts to shed the seedy image of pachinko, one of the country's biggest leisure industries

like any other shopping mall in Tokyo's cramped city centres. But the milky white seven-story huilding io the heart of Shibnya, where the city's youth gather for an evening's fun, is Tokyo's latest landmark dedicated to pachinko, the Japanese version of pinball. inside, the long rows of players watch blurry-eyed as the pachinko balls clang their

The Maruhan Pachinko Tower, which opened this July. is home to 1,090 garish pachinko machioes spilling into plastic trays dozens of silver halls which players exchange for prizes.

way past the flashing pins and

For decadas, pachinko parlours have been a common feature of neighbourhoods, a refuge for the harried salaryman, lonely pensioner or frustrated housewife.

But the game - played hy huying a handful of silver balls from the parlour and dropping them into a machine, hoping to trigger a discharge of even more halls - has long been shunned by the more snobbish members of Japanese society. This is because of the gambliog involved, the

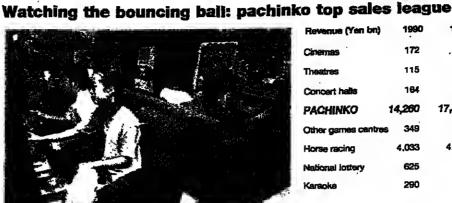
industry's alleged links to gangsters and the seedy atmosphere of the traditional parlours. Although gambling is illegal in Japan, players openly exchange their winnings for money rather than the prizes. Recently, however, a new breed of pachinko parlour has been trying to upgrade the industry's image and appeal to a wider, younger clientele. The Maruhan Pachinko

Tower, by far the most ambitious of the new class, is a hold experiment in shedding the industry's sleazy image and transforming the game into a trendy fad for young people. By doing so, pachinko companies like Maruhan hope they can win respectability and expand beyond their traditional patrons.

suffered much in the recent economic downturn.

Not that pachinko has

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Tokyo youth playing the game in the Maruhan Pachinko Tower certainly have a yeo for this ype of gambling. Last year,

at least once a week and spend between Y10,000 to Y20,000 on each visit. The game has even produced professionals who know how to get specific machines to release balls and can support themselves on their winnings.

So far, the Maruhan Pachinko's annual turnover exceeded the production value Pachinko Tower has enjoyed of Japan's car industry, which amounted to Y14,309bn last year, and of industrial and consomer electrooics combined, at Y12,840bn. In spite of its dark side, pachinko has continued to grow strongly, even during Japan's longest recession since the war. In the past five years,

and the average amount of money the players spend per year has risen from Y78,800 to Y85,200, according to this year's Leisure White Paper, published by an arm of the Ministry of toternational Trade

Avid players visit a parlour Hashimoto becomes deputy PM

Mr Ryutaro Hashimoto, president of Japan's dominant Liberal Democratic party, yesterday took a step closer to ecoming the next premier by being offered the job of deputy prime minister, William Dawkins writes.

and Industry.

the industry took more than

Y17.600bn (£144bo), far

outstripping the combined

sales of theatres, coocert halls,

horse racing, other games

arcades and karaoke combined.

sales have grown 36 per cent

Mr Yohei Kono, foreign minister, yesterday gave np his second title of deputy premier, as widely expected. He handed his resignation to The Japanese, though not Mr Tomiichi Murayama, the known to be risk-takers, prime minister, who agreed to tremendous success among the young, snggesting that the game could be seeing another period of strong growth. Since its opening just over three months months ago, it has had

an average of 15,000 customers a day, each spending about Y5.000. Maruhan, the company which owns the tower complex, is expecting sales of Y15bn from the tower in its More than 30 per ceot of

players at the Pachinko Tower are women in their 20s and 30s, and this stems from Maruhan's different approach to Its The company, which runs 39

trendier pachinko has encouraged more established businesses to jump on the confer the title, largely

honorary, on Mr Hashimoto. Mr Kono was president of the LDP for two years until last month when he stood aside in a party election to allow Mr Hashimoto become party boss. Until the LDP lost a general election two years ago, for the first time in 38 years, the party president automatically became prime minister. Mr Kono will continue as foreign minister for the time being.

ASIA-PACIFIC NEWS DIGEST

113

189

363

4,530

17,833

115

184

349

4,033

other pachinko parlours

throughout Japan as well as

bowling alleys and shopping

complexes, has used fashionable advertising,

modern customer service and a

brighter, trendier decor than a

Some of its machines come

complete with CD player or

portable TV. The waiting area

boasts chic black easy chairs,

and food wagons come around

from time to time to feed

also appeal to younger people. Instead of only the conventional cigarettes and

knick-knacks, Maruhan offers

shoes, wallets and other

accessories with designer

brands snch as Gucci, Ferragamo and Prada, perfumes that are still

unavailable elsewhere in

Japan, and fashionable

cosmetics such as Christian

Dior's Svelte, a hody-toning

The growing popularity of

Leading retailers such as the

Saison Gronp and the Daiei

sopermarket chain, have allowed pachinko parlours in some of their shopping

complexes. Retail space, which

has been in oversupply as a

result of weak consumer spending and a shift to large,

warehouse-style ontlets in

the suburbs. is increasingly

taken over by pachinko par

The prizes Maruhan offers

tireless players.

bandwagon.

typical pachinko parlour.

14.260

# Yen policy costs Japan \$13.47bn

The Bank of Japan spent the best part of \$13.47bn last month in its attempt to revive the stagnant economy by driving down the yen against the US dollar. That figure represents the increase in the central bank's foreign exchange reserves in September, to set a world record, for the eighth month running, of \$179.86bn, the finance ministry announced yesterday. The bulk of the increase, an estimated \$11bn, came from market intervention, with the remainder from profits on managing the bank's own funds.

The BOJ's currency market operations were, however, less successful last month than in August, when the yen fell by 13 per cent against the US currency, helped by intervention from the US and German central banks. Between the beginning and end of September, the exchange rate barely moved, from Y97.88 to the dollar, to Y98.05, though the dollar did touch

Y104.68 at one point, on September 19.

According to market reports, the BOJ's heaviest bout of dollar buying took place on September 8, when it purchased \$5bn on the same day as halving the official discount rate to 0.5 per cent, a level unheard of in any other leading economy since the second world war. Japan has been the world's leading holder of foreign currency for nearly two years. Taiwan is second with \$101.2bn and the US third with

### Pacific trade liberalisation call

The Pacific Economic Co-operation Council has added its voice to calls for trade liberalisation coming from business groups in the Asia-Pacific region. In a "Beijing Statement", adopted on the basis of discussions at its 11th general meeting held last week to Beijing, PECC urges Asia Pacific economies to "take the lead in the global dismantling of obstacles to trade and investment and extending coverage of the Gatt/WTO principles to the constantly increasing range of international economic transactions".

The statement singles out the the forthcoming meeting of WTO ministers in Singapore as a "unique opportunity" to go beyond the achievements of the Uruguay Round and "launch a new round of multilateral negotiations". PECC groups businessmen, academics and government officials from 22 Asia-Pacific countries who are invited to express their views on trade, investment and development co-operation issues in

### English press returns to Saigon

Ho Chi Minh City, formerly Saigon, Vietnam's biggest city and main business centre, got its first English-language daily newspaper since the Vietnam War when the Saigon Times Daily started publication yesterday. The newspaper is aimed at foreign and local businessmen and will compete with the country's existing English-language newspaper, the Vietnam News, published in the capital Hanol by the official Vietnam

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News Agency (VNA).

• Hong Kong's English-language newspaper battle took a new turn yesterday as the Eastern Express slashed its price and the dominant South China Morning Post, citing higher newsprint costs, raised Its price. The Eastern Express, launched by Oriental Press Group 19 months ago, is making a do-or-die bld for market share. It cut its price to HK\$3 (38c). The SCMP, once controlled by Mr Rupert Murdoch and now by Malaysian businessman Robert Kuok, raised its cover charge to HK\$7 from HK\$6. Reuter, Hanoi and Hong Kong Reuter, Hanoi and Hong Kong.

### Philippine storm a 'calamity'

President Fidel Ramos on Monday placed 29 Philippine provinces and 28 cities under a state of calamity after tropical storm Sybii killed more than 100 people, with another 100 reported missing. Ramos also ordered the release of \$1m from state funds to rebuild ravaged areas as the anthorities launched what the state news agency called the country's ggest air and land operation to rescue thousands trapped by Reuter, San Fernando, Philippines floods and mndflows.

### Thai vehicle exports up 48%

Exports of Thai assembled vehicles and vehicle parts rose 48 per cent in the first eight months to Bt7.12hn (\$285m) from Bt4.82bn over the same period last year, the Automotive Industry Club said. A club spokesman said the sharp jump in motorcycle exports was the main factor behind the growth. Exports of motorcycles and components in the first eight months jumped 70.52 per cent to Bt4.47bn from Bt2.86bn in the same period a year ago. The biggest markets for Thai motorcycles were Indochina and other countries in the Association of South-east Asian Nations (Asean), which groups Brunei, Indonesia, Malaysia, the Philippines, Singapore, Thailand and Vietnam.

### Aditya Birla: champion of Indian economic liberalisation

Mr Aditya Vikram Birla, who died on Saturday, headed one of India's largest business empires and was a champion of the country's economic liberal-

isation programme. Mr Birla, 52, ran companies with a combined turnover of nearly \$3bn (£1.9bn) with interests including textiles, chemicals, and aluminium.

oped extensive operations overseas long before the government of Mr P.V. Narasimha Rao, the prime minister, started promoting commercial contacts with the rest of the world in its post-1991 economic

While other business groups were mostly coutent to operate to a heavily-protected home

lippines, Indonesia, Malaysia and elsewhere. By last year, over a third of Mr Birla's companies' turnover was generated outside India.

Mr Birla argued that this overseas experience put him in a strong position to meet growing competition from International companies after India opened its markets after 1991. Unusually for a top Indian market, Mr Birla's companies He was much sought-after by businessman, Mr Birla develinvested in Thailand, the Phi-He was much sought-after by

venture partner in India. Mr Birla was of a wealthy trading family which made its fortune in the early 20th century in Calcutta, the commercial centre of British India. The family prospered under the legendary leadership of Mr G.K. Birla, Mr Aditya Birla's grandfather, who dominated the business for more than 60 years until his death in 1983.

Mr G.K. Birla divided his

for Mr Aditya Birla because of his acknowledged commercial Mr Aditya Birla's core com-

panies were Grasim Industries, Hindalco Industries. Indian Rayon and Industries, and Indo Gulf Fertilisers and Chemicals. Mr Birla is likely to be succeeded by his 27-year-old son, Mr Kumarmangalam Birla.



# INTERNATIONAL ECONOMIC INDICATORS: BALANCE OF PAYMENTS

### New Zealand government aims to sell the wood from the trees

Plans for a national asset are arousing anger, reports Terry Hall

he New Zealand government is preparing to pri-vatise one of the state's last hig assets - a large area of North Island state forests. Strong interest has been shown in the planned sale, ooe of the few remaining opportu-nities anywhere for an international resources company to gain control over millions of acres of trees The sale, politically risky for

the government which is already subject to vigorous resistance from the Maori tribes and the political opposition over the project, is expec-ted to be finalised around the middle of next year just before the general election.

Opinion polls show the public overwhelmingly opposed to selling off the forests, an antagonism that could erode the ruling National party's hopes of governing alone under the country's new Germanstyle voting system. Weyerhauser, the big US for-

estry company, has confirmed it will bid for the cutting rights to the forests and has already hosted a visit of a oumber of MPs to its Tacoma, Washington, headquarters. Other companies said to be

interested include the New Zealand-based Fletcher Challenge and Carter Holt Harvey. and US companies ITT Rayonier and Georgia Pacific. Juken Nissho is among several Asian companies also said to have indicated an interest.

Opposition parties claim that the sale, promoted by Mr Bill Birch, finance minister, is being "hustled through" so the government can complete its



first parliament using the new voting system

The opposition Labour party says the sale, which could raise up to NZ\$2.1bn (\$1.4bn). is designed to raise mooey so Mr Birch can meet the government's net debt target of 30 per cent of gross domestic product before the election. Mr Birch has promised a round of substantial tax cuts if the net debt figure is 30 per cent or less.

Mr Bircb says this claim is "ridiculous. We want to make a decision on the size and scale of the tax cuts by December or so. We won't have sold the forests by then." The money from the forest sale would go towards debt reduction.

Maori tribes have already claimed the land on which the forests stand through the Treaty of Waltangi court process, and the land is oot being offered for sale. However, as soon as the government announced the proposed sale of the forests, the Maori people

said they also wanted posses-

The government responded by saying it would consult with them over the future of the land as It is required to do. But a government spokesman said ownership of the land was a different issue from control of the trees and that it intends to go ahead with the sale. This is likely to lead to Maori court

sion of the trees.

The largest forest for sale is the 124,000 hectare Kaingaroa plantation, which contains valuable stands of near-mature radiata pine, Douglas fir and other species. Other forests are at Rotoehu and Whakawarewa, and the blg Waipa sawmill is also to be sold. The forests, which are managed by the state-owned Forestry Corporation, made a profit of NZ\$141m in the 15 mooths to June, on sales of NZ8495m.

The forests produce 16m

cubic metres of timber a year,

forecast to reach 40m cu

metres by 2010. Any buyer

would acquire the right to plant a second crop of trees o the land, which effectively means they gain leasehol rights for up to 70 years.

Mr Birch said it was impor tant the sales proceed. as was in the national interest i add value to the forestry resource, not simply to expor raw logs. An lovestmeot o NZ\$4.5bn was needed over the next 15 years. "It is not the government's desire or the tax payers' interest for it to provide this capital," he declared Ms Rosanne Meo. chairper

son of the Forestry Corpora tion, said a need existed for new investment to maximis the forests' potential. The gov ernment bad said it would no give the corporation the capita needed to become a timber pro cessor, she added. She con firmed the corporation would try to ensure any buyer invested adequate capital to maximise the value of the for-

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1988	272.5	-100.2	-107.4	1.1833	67.0	218.7	79.8	87.0	151.51	153.7	272.8	61.4	41.9	2.0739	174.1
1989	330.2	-99.3	-94.3	1.1017	70.0	245.5	70.6	53.4	151.87	147.0	310.1	65.2	52.0	2.0681	113.3
1990	309.0	-79.3	-72.7	1.2745	66.7	220.0	50.0	28.5	183.94	132.5	324.3	51.7	38.5	2.0537	118.1
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1993	397.3	-98.7	-85.4	1.1705	66.3	254.8 300.0	102.1 120.8	90.4	164.05	150.7	330.5	16.6	-18.7	2.0187	120.8
1994	432.3	-127.0	-127.8	1.1857	65.1	323.5	122.5	111.1 108.8	130.31 120.99	161.0 164.9	323.0 358.8	31.4 37.8	-13.4 -17.4	1.9337 1.9198	125.3 125.6
th qtr.1994	110.8	-32.3	-35.1	1.2346	63.3	81.1	28.5	24.4	122.03	197.6	93.2	9.3	-4.4	1,9056	127.3
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November	36.6	-11.5	п.е.	1.2369	63.0	27.5	10.2	8.8	121.21	199.1	31.0	3.9	0.6	1.9044	127.8
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991	176.4	-42	-4.8	8.9643	102.1	137.0	-8.3	-18.0	1523.2	100.1	142.3	-26.3	-25.6	0.7150	8.89
992	182.5	4.5	2.9	6.8420	105.4	137.8	-10.5 -8.0	-17,7 -21.5	1531.3	98.7	147.7	-14.7	-11.7	0.7002	90.5
	179.6	13.3	8.0	6.6281	109.1	144.3	17.9	-₹1.5 8.7	1581.5 1836.7	85.6	145.9	-17.8	-13.4	0.7359	87.1
		12.9	6.6	6.5659	110.1	160.1	18.6	13.1	1908.8	80.5 77.0	756.1 173.8	-17.2 -13.7	-14.2 -2.2	0.7780 0.7736	79.9
	198.8	12.0												0.7791	80.0
993 994 th qtr.1994	52.8	4.1	1.0	6.5426	111.0	43.5	4.3	3.9	1980.2	75.0	45.3	~20	_0 ==		78.8
994 th qtr.1994 st qtr.1996	52.8 54.8	4.1 4.7	7.0	8.5115	112.2	41.1	2.9	~1,2	2069.8	75.0 70.8	45.3 46.1	~3.9 ~2.6	-0.66 -1.65		
994 th qtr.1994 st qtr.1996 and qtr.1995	52.8	4.1								70.8 66.4	45.3 46.1 45.2	-3.9 -2.5 -3.9	-0.66 -1.65 -2.86	0,7974 0,8263	75.7
994 th qtr.1994 st qtr.1995 and qtr.1995 rd qtr.1995 October 1994	52.8 54.8 55.7	4.1 4.7 4.6	7.0 4.4	8.5115 6.4802 6.5281	112.2 113.2	41.1	2.9	~1.2 a.9	2069.8 2198.2	70.8 66.4 70.0	46.1 45.2	-2.5 -3.9	-1.65 -2.86	0.7974 0.8263 0.8268	75,7
994 th qtr.1994 st qtr.1995 and qtr.1995 rd qtr.1995 October 1994 lovember	52.8 54.8 55.7 17.4 17.4	4.1 4.7 4.6 1.55 1.09	7.0 4.4 0.41 -0.41	8.5115 6.4802 6.5281 6.5386	112.2 113.2 114.0	41.1 44.3	2.9 5.0	-1.2 a.9	2069.8 2198.2 1942.8	70.8 66.4 70.0 75.8	46.1 45.2 14.8	-2.5 -3.9 -0.95	-1.65 -2.86	0.7974 0.8263 0.8268 0.7812	75.7 80.0
994 th qtr.1994 st qtr.1995 and qtr.1995 rd qtr.1995 October 1994 lovember	52.8 54.8 55.7 17.4 17.4 18.0	4.1 4.7 4.6 1.55 1.09 1.46	7.0 4.4 0.41 -0.41 1.04	8.5115 6.4802 6.5281 6.5386 8.5612	112.2 113.2 114.0 111.4 111.0 110.7	13.9 14.0 15.6	2.9 5.0	1.2 a.9 1.1 0.9	2069.8 2198.2 1942.8 1958,1	70.8 66.4 70.0 75.8 75.0	46.1 45.2 14,8 15.4	-2.5 -3.9 -0.95 -0.92	-1.65 -2.86 n.a.	0.7974 0.8263 0.8268 0.7812 0.7786	75.7 80.0 80.0
th qtr.1994 st qtr.1996 and qtr.1995 and qtr.1995 ctober 1994 lovember lecember anuery 1995	52.8 54.8 55.7 17.4 17.4 18.0 17.8	4.1 4.7 4.6 1.55 1.09 1.46 1.32	7.0 4.4 0.41 -0.41 1.04 4.95	8.5115 6.4802 6.5281 6.5386 8.5612 6.5464	112.2 113.2 114.0 111.4 111.0 110.7 111.4	41.1 44.3 13.9 14.0 15.6 12.5	2.9 5.0 1.8 1.1	1.2 a.9 1.1 0.9 1.9	2069.8 2198.2 1942.8 1958,1 1979.6	70.8 66.4 70.0 75.8 75.0 74.2	46.1 45.2 14.8 15.4 15.0	-2.6 -3.9 -0.95 -0.92 -1.98	-1.65 -2.86 n.a. n.a.	0.7974 0.8263 0.8268 0.7812 0.7786 0.7775	75.7 80.0 80.0 80.0
th qtr.1994 st qtr.1995 and qtr.1995 and qtr.1995 and qtr.1995 actober 1994 (overmber becomber anuery 1995 sebruary	52.8 54.8 55.7 17.4 17.4 18.0 17.8 18.6	4.1 4.7 4.6 1.55 1.09 1.46 1.32 1.63	7.0 4,4 0,41 -0.41 1.04 4.95 1.25	8.5115 6.4802 6.5281 6.5386 8.5612 6.5464 6.5040	112.2 113.2 114.0 111.4 111.0 110.7 111.4 111.7	13.9 14.0 15.6 12.5 13.5	1.8 1.1 1.5 0.8 0,7	1.2 a.9 1.1 0.9	2069.8 2198.2 1942.8 1958,1	70.8 66.4 70.0 75.8 75.0 74.2 73.8	14,8 15.4 15.0 15.3	-2.6 -3.9 -0.95 -0.92 -1.98 -0.99	-1.65 -2.86 n.a. n.a. n.a.	0.7974 0.8263 0.8268 0.7812 0.7786 0.7775 0.7858	75,7 80.0 80.0 80.0 79.8
th qtr.1994 st qtr.1996 and qtr.1995 and qtr.1995 October 1994 lovember anuary 1995 ebruary flarch	52.8 54.8 55.7 17.4 17.4 18.0 17.8 18.6 18.5	4.1 4.7 4.6 1.55 1.09 1.46 1.32 1.63 1.72	7.0 4.4 0.41 -0.41 1.04 4.95 1.25 0.78	6.4902 6.4902 6.5281 6.5396 8.5612 6.5464 6.5040 6.4941	112.2 113.2 114.0 111.4 111.0 110.7 111.4 111.7 113.3	13.9 14.0 15.6 12.5 13.6 15.0	1.8 1.1 1.5 0.8 0.7 1.8	1.2 a.9 1.1 0.9 1.9 -20 0.8 0.0	2069.8 2198.2 1942.8 1958.1 1979.5 1992.4 2017.1 2199.8	70.8 66.4 70.0 75.8 75.0 74.2	14,8 15,4 15,4 15,3 15,5	-2.5 -3.9 -0.95 -0.92 -1.98 -0.99 -0.91	-1.65 -2.86 n.a. n.a. n.a. n.a. n.a.	0,7974 0,8263 0,8268 0,7812 0,7796 0,7775 0,7858 -0,7923	75,7 80.0 80.0 80.0 79.8 78.5
th qtr.1994 st qtr.1995 and qtr.1995 and qtr.1995 ctober 1994 lovember secumber secumpy 1995 sebruary farch sprit	52.8 54.8 55.7 17.4 17.4 18.0 17.8 18.6 18.5	4,1 4,7 4,6 1,55 1,09 1,46 1,32 1,63 1,72 1,81	7.0 4.4 0.41 -0.41 1.04 4.95 1.25 0.78 1.58	8.5115 6.4902 6.5281 6.5396 8.5612 6.5040 6.4941 6.4971	112.2 113.2 114.0 111.4 111.0 110.7 111.4 111.7 113.3 114.8	13.9 14.0 15.6 12.5 13.5 15.0 12.9	1.8 1.1 1.5 0.8 0.7 1.8 1.8	1.2 a.9 1.1 0.9 1.9 -2.0 0.8 0.0 -0.7	2069.8 2198.2 1942.8 1958,1 1979.6 1992.4 2017.1 2199.8 2273.5	70.8 66.4 70.0 75.8 75.0 74.2 73.8 72.5	46.1 45.2 14.8 15.4 15.0 15.3 15.5 16.4	-2.6 -3.9 -0.95 -0.92 -1.98 -0.99 -0.91 -0.64	-1.65 -2.86 n.a. n.a. n.a. n.a.	0,7974 0,8263 0,8268 0,7812 0,7786 0,7775 0,7858 0,7923 0,8141	75,7 80.0 80.0 80.0 79.8
seption of the septio	52.8 54.8 55.7 17.4 17.4 18.0 17.8 18.6 18.5 18.5	4,1 4,7 4,6 1,55 1,09 1,46 1,32 1,63 1,72 1,81 1,29	7.0 4.4 0.41 -0.41 1.04 4.95 1.25 0.79 1.58 1.13	8.5115 6.4902 6.5281 6.5396 8.5612 6.5464 6.5040 6.4941 6.4371 6.5218	112.2 113.2 114.0 111.4 111.0 110.7 111.4 111.7 113.3 114.8 112.2	12.9 14.0 15.5 12.5 13.5 12.9 15.3	1.8 1.1 1.5 0.8 0.7 1.8 1.8	1.2 a.9 1.1 0.9 1.9 -2.0 0.8 0.0 -0.7 2.4	2069.8 2198.2 1942.8 1958,1 1979.6 1992.4 2017.1 2199.8 2273.5 2159.8	70.8 66.4 70.0 75.9 75.0 74.2 73.8 72.5 66.3	14,8 15,4 15,4 15,3 15,5	-2.6 -3.9 -0.95 -0.92 -1.98 -0.99 -0.91 -0.64 -1.64	-1.65 -2.86 n.a. n.a. n.a. n.a. n.a.	0,7974 0,8263 0,8268 0,7812 0,7796 0,7775 0,7858 -0,7923	75.7 80.0 80.0 80.0 79.8 78.5 78.8
th qtr.1994 st qtr.1995 and qtr.1995 and qtr.1995 October 1994 fovember secember senuery 1995 sebruary farch sprii Azy ume	52.8 54.8 55.7 17.4 18.0 17.8 18.6 18.5 18.5	4.1 4.7 4.6 1.55 1.09 1.46 1.32 1.63 1.72 1.81 1.29 1.50	7.0 4.4 0.41 -0.41 1.04 4.95 1.25 0.78 1.58	8.5115 6.4902 6.5281 6.5386 8.5612 6.5464 6.5040 6.4941 6.4371 6.5218 6.4818	112.2 113.2 114.0 111.4 111.0 110.7 111.4 111.7 113.3 114.8 112.2 113.1	13.9 14.0 15.6 12.5 13.5 15.0 12.9	1.8 1.1 1.5 0.8 0.7 1.8 1.8	1.2 a.9 1.1 0.9 1.9 -2.0 0.8 0.0 -0.7 2.4 2.2	2069.8 2196.2 1942.8 1958.1 1979.5 1992.4 2017.1 2199.8 2273.5 2159.8 2161.4	70.8 66.4 70.0 75.8 75.0 74.2 73.8 72.5 66.3 64.1 67.4 67.5	14,8 15.4 15.0 15.3 15.5 16.4 14.8	-2.6 -3.9 -0.95 -0.92 -1.98 -0.99 -0.91 -0.64	-1.65 -2.86 n.a. n.a. n.a. n.a.	0.7974 0.8263 0.8268 0.7812 0.7786 0.7775 0.7858 0.7923 0.8141 0.8261	75.7 80.0 80.0 79.8 78.5 78.8 75.8
th qtr.1994 st qtr.1996 and qtr.1995 and qtr.1995 october 1994 lovember satuery 1995 ebrusry farch prit tay une	52.8 54.8 55.7 17.4 17.4 18.0 17.8 18.6 18.5 18.5	4,1 4,7 4,6 1,55 1,09 1,46 1,32 1,63 1,72 1,81 1,29	7.0 4.4 0.41 -0.41 1.04 4.95 1.25 0.79 1.58 1.13	8.5115 6.4802 6.5261 6.5386 8.5612 6.5464 6.5040 6.4941 6.49371 6.5218 6.4818 6.4424	112.2 113.2 114.0 111.4 111.0 110.7 111.4 111.7 115.3 114.8 112.2 113.1 114.3	12.9 14.0 15.5 12.5 13.5 12.9 15.3	1.8 1.1 1.5 0.8 0.7 1.8 1.8	1.2 a.9 1.1 0.9 1.9 -2.0 0.8 0.0 -0.7 2.4	2069.8 2196.2 1942.8 1958.1 1979.5 1992.4 2017.1 21998 2273.5 2159.8 2161.4 2146.5	70.8 66.4 70.0 75.8 75.0 74.2 73.8 72.5 66.3 64.1 67.4 67.5 68.8	14.8 15.4 15.3 15.5 16.4 14.8 15.2	-2.6 -3.9 -0.95 -0.92 -1.98 -0.91 -0.84 -1.64 -1.23	-1.65 -2.86 n.a. n.a. n.a. n.a. n.a.	0.7974 0.8263 0.8268 0.7812 0.7786 0.7775 0.7858 0.7923 0.8141 0.8261 0.8227	75.7 80.0 80.0 79.8 78.5 78.8 75.8 75.7
sith qtr.1994 st qtr.1995 st qtr.1995 and qtr.1995 loctober 1994 lovember secember senuery 1995 obrusry farch prili Lay unse	52.8 54.8 55.7 17.4 18.0 17.8 18.6 18.5 18.5	4.1 4.7 4.6 1.55 1.09 1.46 1.32 1.63 1.72 1.81 1.29 1.50	7.0 4.4 0.41 -0.41 1.04 4.95 1.25 0.79 1.58 1.13	8.5115 6.4902 6.5281 6.5386 8.5612 6.5464 6.5040 6.4941 6.4371 6.5218 6.4818	112.2 113.2 114.0 111.4 111.0 110.7 111.4 111.7 113.3 114.8 112.2 113.1	12.9 14.0 15.5 12.5 13.5 12.9 15.3	1.8 1.1 1.5 0.8 0.7 1.8 1.8	1.2 a.9 1.1 0.9 1.9 -2.0 0.8 0.0 -0.7 2.4 2.2	2069.8 2196.2 1942.8 1958.1 1979.5 1992.4 2017.1 2199.8 2273.5 2159.8 2161.4	70.8 66.4 70.0 75.8 75.0 74.2 73.8 72.5 66.3 64.1 67.4 67.5	14.8 15.4 15.3 15.5 16.4 14.8 15.2	-2.6 -3.9 -0.95 -0.92 -1.98 -0.91 -0.84 -1.64 -1.23	-1.65 -2.86 n.a. n.a. n.a. n.a. n.a. n.a.	0.7974 0.8263 0.8268 0.7812 0.7786 0.7775 0.7858 0.7923 0.8141 0.8261 0.8227	75.7 80.0 80.0 79.8 78.5 78.8 75.8 75.7 75.5

(free on board) basis, except for German and Italian imports which use the CIF method (including carriage, insurant 1990, shown in Italics, refer to the former West Germany. The nominal effective exchange rates are pand average Datastream and WEFA from national government and central bank sources.

transition needs so much time

Abacha plan

old questions

National consensus on the many issues would be difficult

enough if the unofficial winner

of the last election, Mr Mosh-

ood Abiola, had not been

detained over a year ago and

charged with treason after he declared himself president. Mr

Ahiola's fellow Yoruhas, a group of nearly 30m around

Lagos and the south-west, feel disenfranchised by the episode

and are unlikely to approve a political system which has not

Nigeria's attempts to negoti-

ate a medium-term agreement with the International Mone-

tary Fund, which would lead

eventually to some reschedul-

ing of its growing foreign debt

of nearly \$40bn (£25.8bn), will

be hampered by the continuing

The attempts to prolong

power by the Bahangida

regime had a disastrous effect

on the economy after 1990.

This government will have to

put aside domestic political

pressures if it is to adhere to

policies which the Fund con-

siders essential to Nigeria's

recovery; restraints on govern-

ment spending, deregulation of

foreign exchange rates and

reform or privatisation of the

big state industries such as oil

This year Mr Anthony Ani,

the finance minister, has tight-

ened control of government

spending, hut it had atill

exceeded the hudget hy the

mid-year. He has maintained a

stable exchange rate but at the

expense of economic growth.
The government has taken

up to N130bn (\$1.58bn) out of

the money supply, forcing

industry into an even deeper recession than last year, when

it recorded a 5 per cent fall in

output. Few economists believe

that the monetary squeeze can

be sustained without serious

damage to the non-oil economy

nor has it yet brought inflation

Michela Wrong, Nakuru

Conute James, Kingston

THE NEW L'ESPACE 127

Drinks and snacks at the bar

games, there is a tempting selection of card and board games. It's

enough to make you forget you're on a plane. L'Espace 127 is being

phased in gradually, starting with Asia, the Pacific and the Americas.

down to acceptable levels.

See Editorial Comment

and telecommunications.

resolved the issue.

political uncertainty,

raises same

By Paul Adams in Lagos

The timetable for Nigeria's

three-year transition to civil

rule, announced by Gen Sani

Abacha, head of state, on Sun-

day, raises questions by now

familiar to Nigerians: why do

army rulers need so much time

to hold elections, and does

their management of the econ-

omy justify the prolonged stay

The record of past military

rulers' transition programmes

does not inspire confidence. In

the 35 years since indepen-

dence, 25 have been spent

The eight-year transition of

Gen Ibrahim Bahangida, three

times postponed, ended in

chaos when it was almost com-

plete, with the annulment hy

the army of the June 1993 pres-

Gen Abacha, his former dep-

uty who seized power in

November 1993 with a promise

that his tenure would be brief,

began the "transition to lasting

democracy" hy aholishing

many of the remaining elected

range of elected offices for leg-

islature and executive from

local to federal government

level and blamed delays in the

handover on corruption and

In a country where loyalty is

mainly tribal and corruption in

government is endemic, the

same charges are likely to sur-

has potentially even more haz-

ards, as it includes possible

additions to the existing 30 states, multiple parties which

must be "federal" in character

and, for the first time, the prin-. ciple of rotation of power

between a planned six regions.

to answer criticism that, for

most of its post independence

INTERNATIONAL NEWS DIGEST

Kenyan dissident

A Kenyan magistrate yesterday convicted Mr Koigi Wa Wamwere, the country's leading dissident, of robbery but cleared him of the firearms charges that would have sent him

to the gallows. Mr William Tuiyot, the chief magistrate, sentenced Mr Koigi, his brother Charles, and local councillor Mr Njuguna Ngengi to four years in jail and six lashes each

The three were found guilty of two counts of attempting to steal with violence weapons from officers at a police station. The trial was closely watched by critics of Kenya's human rights record and was seen as a key test for future aid hy many donors. Members of Kenya's new opposition party.

Safina, which Mr Koigi helped to set up, said they were convinced the former MP would have been sentenced to death

Death sentences would have done Kenya enormous damage abroad as it prepares to answer its critics at an international

Iraqi officials press for oil sales

Senior Iraqi government officials are pressing for the resumption of limited crude oil sales to ease the humanitarian situation in the country, the Middle East Economic Survey

It said the measure could be introduced after an Iraqi cabinet change and that the US had said it would not oppose implementation of UN resolution 986, which allows Iraq to sell

oil worth \$2bn (£1.2hn) over six months to meet humanitarian needs. Iraq has turned down the deal, saying the close monitoring would infringe its sovereignty.

Reuter, Nicosia

Commonwealth fund planned Finance ministers from the Commonwealth are planning a fund to mobilise capital for investments in privatised

companies and in small and medium-sized businesses in developing member states. It will be created by co-ordinating several regional funds, starting next year with a fund for

Corporation of the UK, which was providing \$25m (£16.1m) in

Mediterranean energy review

A two-day conference opened in Cairo yesterday to examine

the financing needs of energy projects in the Mediterranean region. Organised jointly by the European Commission, the World Bank and the Observatoire Mediterraneen de l'Energie,

an association of energy companies, the conference includes

delegates from nearly all the countries in the south and east

financing needs of the energy sector in countries in the area

would be about \$250bn (£161.2bn) over the next 15 years. To mest this, he said, countries in the Middle East and North Africa would have to move faster in structural reform to

Mr Richard Stern, director of the industry and energy department at the World Bank, told the conference that the

"The fund will be strictly commercial, and we hope the start of the African fund next year will be followed by the creation of others soon after," he said. The facility is intended to help countries that have suffered from a decline in private

Africa, Chief Emeka Anyaoku, the Commonwealth secretary-general, said in Kingston yesterday. The Commonwealth Private Invest Initiative will be discussed by the finance ministers at a conference beginning in Kingston today. The project would be co-ordinated by agencies such as the Commonwealth Development

seed capital, Chief Anyaoku said.

basin of the Mediterranean

attract private investment.

investment flows.

if it had not been for the level of foreign interest.

escapes gallows

history, Nigeria has been gov-

erned by northerners.

for simple robbery.

donors' meeting next month.

(Mees) reported yesterday.

The regions are to be created

Gen Ahacha's programme

Gen Babangida had created a

under army rule.

idential election.

bodies in Nigeria.

face again

There should be "no repre-

said - reversing the slogan of

the American colonies' war of

independence against Britain.

He described as "disreputable"

the fact that the UN has now

tapped into its peacekeeping

fund, to the tune of \$200m.

after the regular budget ran

He also suggested that inter-

est should be charged on arrears, and reaffirmed an

Anglo-Swedish proposal for a

fairer system to calculate UN

The next time you

meet someone interesting

have to wait until you land

on the plane, you won't

In the old days you could only drink in each other's words. Now you can meet

for a drink. Air France l'ESPACE 127 now has a buffet bar open throughout

the flight, with beverages and tasty snacks. And for those of you who like

AIR FRANCE

YOUR PASSENGER RIGHTS

to go out for a drink.

members' national income.

out of funds in mid-August.

sentation without taxation."

International Labour Organisa

The request also assumes

that the UN peacekeeping oper-

ation in Bosnia, which costs

\$5m a day, will be wound down

as Nato assumes the main hur-

den of regulating the Balkan

So far, the administration's

request for \$510m on the peace-

keeping account bas met

counter-proposals of \$425m

from the House of Representa-

tives and \$250m from the Sen-

ate foreign relations commit-

tee: a request of \$304m for the

UN regular budget has been

almost met by the House.

while the Senate favours a

Yet administration officials

are confident that by demon-

strating their determination to

secure the earliest possible

action on UN reform, and keep-

ing a ceiling ou the total UN

hudget, they can secure

enough funding from Congress to keep the UN system going.

their show of indignation,

European nations are likely to

fall in with whatever condi-

tions the US sets for re-engag-

ing with the UN. "Europeans

need the UN, it makes them

feel more important than they

Michael Littlejohns

and Bruce Clark

really are," said one.

US officials say that, despite

lower number.

crisis.

Neither the threat of diplo-

matic sanctions, nor the pro-

posal on contributions, is

likely to make much difference

to the US attitude. The sums at

stake are tiny in relation to the

US budget, and internal poli-

tics rather than external pres-

sure will be decisive in shaping

US officials say they are

determined to revive the UN

system, and restore US engage-

ment - but only on condition

that long-standing demands for

the axing or scaling down of

redundant UN programmes,

and cuts in the bureaucracy,

This represents the only

hope of persnading a deeply

sceptical Republican majority

in the US legislature of provid-

ing the sums necessary to keep the UN system afloat and US

The administration's requests to Congress for UN contributions in the forthcom-

ing financial year are based on

the assumption that the US

the Industrial Development

will pull out of one UN agency

Organisation - and sharply

reduce involvement in several

continue to fund the World

Health Organisation and Uni-

cef, but prime candidates for a

reduction in US funding

include the Food and Agricul-

ture Organisation and the

Officials say Washington will

Washington's posture.

he satisfied quickly.

influence intact.

Cash crisis overshadows UN's 50th birthday

Payment arrears to the United Nations

Japan

Ukraine

France

Germany

Netherlan

Small

**Belgium** 

Australia

Sweden

Canada

nations, which feel they bear

most of the buman and politi-

cal costs of peacekeeping, has

been reflected in recent out-

bursts in the Geoeral Assem-

Mr Malcolm Rifkind, UK for-

eign secretary, last week called

for wider application of the

rule under which UN members

which fall into arrears by more

than two years should lose

their General Assembly vote.

This rule applies to the regular

UN budget, and Mr Rifkind snggested it should he

extended to the peacekeeping

account as well.

UK

Italy

The United cessor was barred from the

three weeks their dues. Canada. Australia

General Assembly.

Only about 70 of the 185

member states have paid all

and western Europe are among

the minority of states which

most of the blame and it is the

US position which is expected

The biggest consequence of

the financial crisis is the UN's

decision in June to stop reim-

bursing countries which con-

tribute troops to peacekeeping

operations. Other measures

have proved less than draro-

nian: a ban on the purchase of

furniture has not prevented

the installation of thousands of

yards of new carpet for the

It is the cut-off of peacekeeping payments which has

prompted the loudest com-

plaints in European nations,

and which threatens to exclude

from peacekeeping business

those developing countries

which cannot afford to finance

The bulk of the US debt -

\$940m - is on the peacekeeping

account. This reflects both the

hallooning of operations in

Cambodia, Somalia, Rwanda

and Bosnia and the suspicious

attitude of Congress to multi-

lateral operations that compro-

The anger of European

mise US sovereignty.

their own hlue beimets.

to make or break the system.

But Washington has taken

generally pay on time.

Nations' 50th birthday party Nations' 50th

- or a swansong -

unless a solution is found to

the organisation's deepest

Already, the UN's \$3.7bn

(£2.4bn) mountain of unpaid

dues, of which the biggest

share is owed by the US, has

fuelled complaints from the

developing world and has

clouded the transatiantic atmo-

sphere. In their more anxious

moments. UN insiders fear a

walkout hy France's President

Jacques Chirac in protest at

Washington's failure to pay its

UN finances often go through a bad patch in early

autumn, hefore end-of-year

contributions trickle in. The

current malaise is by no means

the first, but it is the worst and

fear over the UN's future has

The US, which acknowledges

its \$1.3bn debt to the UN, is not

the only late payer. Some 39 countries paid no contribution

at all last year, while other

financial arrangements are

complicated by a web of small

disputes, such as the reluc-

tance of the new South African

government to settle bills from

the years when its white prede-

rarely been as deep.

financial crisis.

starting in

could turn into

shouting

ocross.

\$ 120 m

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# US to ease computer export curbs soon

By Nancy Dunne in Washington

The US will soon ease licensing requirements on high-speed computers to help US companies compete in the world market, the White House

sald yesterday. President Bill Clinton is expected to approve a tiered system for monitoring technology exports as soon as a legal review is completed, according to Mr William Reinsch, a commerce department under-secretary.

The programme of liberalisation has been awaited impatiently by the US computer industry. For years it has complained that stricter controls than those imposed on competitors' governments have put it at a disadvantage in the global economy.

The end of the Cold War has meant

rethinking the entire process. While exports of the most powerful computers to communist countries such as China is still unlikely, attention has shifted to countries now considered a greater threat. A ban on sales of sophisticated computers will remain for Iran, Iraq, North Korea and Libya.

Mr Mike McCurry, White House press secretary, said yesterday there was still some question about the extent of liberalisation. Currently companies must obtain licences to export any computers more powerful than 1,500 MTOP's, or million theoretical operations per second.

There might be ways of staging to US allies in Europe. Controls would

different export decisions depending also be eased on work stations. on the type of country yon're dealing with," he said. "London is not like dealing with Baghdad."

Mr McCurry suggested that a new ceiling of 7,000 to 10,000 MTOP's could be set, but acknowledged that "there is a technical issue about the speed threshold that is still . . . under consid-

According to a report in the New York Times, the president is expected to approve a proposal to lift licensing requirements for all computers of less than 2,000 MTOP's,

The newspaper said the White House was expected to lift all restrictions on sales of advanced computers

Sales of sophisticated technology would also be allowed to other friendly developing countries not thought to be building nuclear weapons or missile technology.

The whole liberalisation effort will meet some resistance in Congress among Republican cold war hawks. The administration is fighting efforts to dismantle the Commerce Department, which represents business interests and at present takes the lead on export licensing.

Even if Commerce survives, another proposal on the table would move the export licensing responsibility from the Commerce Department to the State Department or the Penta-

gon. Administration officials from both departments last week told the Senate sub-committee that they do not want the responsibility.

Mr Thomas McNamara, assistant secretary of state, said the current arrangement, under which the State Department licenses munitions list items and Commerce licenses commercial products, is "the proper way

The new system is expected to give the Pentagon, Energy and State Departments and the Arms Control & Disarmament Agency the power to review Commerce decisions. Any disagreements among the five could be settled by Mr Clinton.

Siemens in

with SMH

electrical engineering group, and SMH, the leading Swiss watchmaker, bave set np a 50:50 joint venture. Swatch

Telecom, to develop and mar-

ket miniaturised telecommuni-

cations devices under SMH's Swatch brand, writes Ian Rod-

ger in Zurich. Mr Nicolas Hayek, SMH

chairman, said the venture's

products would be hased on

Siemens's normal, cordless

and cellular telephone technol-

ogies, taking advantage of SMH's expertise in microme-

chanics and microelectronics.

Zurich. The first jointly devel-

oped devices were expected on

the market next year. Siemens

said it expected the venture's

sales to reach at least SFr200m

(\$166.6m) within three years.

Mr Hayek said one likely

product was an "access

watch", a watch equipped with

electronic information that

could transmit a password at

an entry point. SMH is in talks

with Ski Data of Salzburg, a

leading supplier of entry con-

trol systems for ski resorts

Another Idea was a card

modem for laptop computers incorporating a cellular tele-

and parking garages.

Siemens would be represented in the venture by its Siemens-Alhis subsidiary in

telecoms

venture

WORLD TRADE NEWS DIGEST

### Vietnam fines Taiwan investor

A court has ordered a Taiwanese company to pay 310m dong (US\$231,000) in damages to its former Vietnamese partners in a failed banana plantation. The award is one of the largest to arise from a commercial dispute with foreigners since Vietnam opened up to outside investors in 1988. Vietnam still lacks a full body of laws to protect investors, and other foreign companies have run foul of what some say are opportunist rules and penalties.

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A court in Vietnam's southern Dong Thap province ruled that Taiwan's Pan Viet Corp had broken its joint venture contract with hundreds of farmers and with a provinctal trading company. Mr Wang Pa-Chi, Pan Viet's managing director in Vietnam, rejected the court's verdict and said he planned to appeal.

Pan Viet started a 319-hectare banana venture in 1991. It pulled out of the project three years later, according to Vietnamese news reports, after disagreeing with farmers about how much it owed them for more than 200,000 banana trees that died. The Taipei Economic and Cultural Office said the company withdrew from the project because it lost money when some farmers sold bananas to other buyers, despite having contracted to sell all their fruit to Pan Viet. AP, Hanoi

### Bonn assistance for Hungary

Germany is prepared to guarantee credits worth DM1bn (\$704m) to belp Hungary modernise its economy, the two governments announced yesterday. The German federal government will guarantee DM500m of project loans to be provided by Kreditanstalt für Wiederaufbau, the German state-owned development bank.

The loans will help finance investments to improve Hungary's transport, environmental protection and municipal energy infrastructure; energy saving projects, the creation of an up-to-date land registry to facilitate investments in Hungary; and investment projects of small and medium companies. In addition, the states of Bavaria and Baden-Württemberg will each guarantee DM250m of bank loans to belp finance investments by joint German-Hungarian ventures in which companies from the two states are Peter Norman, Bonn

### Chinese car imports fall

China imported 59,267 vehicles in the first half of this year, a drop of 34.9 per cent compared with the same period last year. The vehicles, which cost China \$520m, included 13,742 already assembled and the rest in parts, according to customs figures. Barter trade made up for nearly half of assembled car import, totalling 5,469 units, while 4,855 units were general imports. The rest were imported by foreign-funded enterprises.

The customs statistics show the majority of assembled vehicles were produced in Japan, the US, Russia, Romania, Germany and the Czech Republic, accounting for 59.1 per cent of total imports. In the first six months, China imported 36.2 per cent of vehicle parts from South Korea, Poland, Hungary, Bulgaria and Slovakia. Sophie Roell, Beijin Sophie Roell, Beijing

■ Mercedes-Benz Japan, the Japanese unit of Mercedes-Benz of Germany, yesterday launched its 1996 E-class luxury sedan models in Japan at prices on average 4 per cent cheaper than their predecessors. The Japanese price of the E230 will be Y5.7m (\$58,000) compared with Y5.6m for its predecessor, the E220. Mercedes-Benz plans to sell 2,700 E-class models in the three months to end-December 1995 and 13,000 in calendar

# Greeks renew their Romanian ties

reek companies are returning to Romania after a gap of 50 years and are again focusing on sec-tors that were profitable in the past - trade, shipping and,

most recently, banking.
Expatriate Greek families, some of whom bad lived around the Black Sea for several generations, controlled much of Romania's shipping industry, banking aystem and commodities trade before they were dispossessed by the com-

When normal contacts resumed with the fall of the Ceausescu regime in 1989, inherited goodwill became a significant factor in setting up joint ventures with Romanian partners, according to Greek husinessmen. One example is Mr lon Chryssovelonis, whose family owned one of Romania's largest banks in the 1930s and who now works with Papastratos, a Greek cigarette company planning to start production in Romania.

The new traders don't usually have ties with the past but they benefit from the positive attitude towards co-operating

with Greece," he said. More than 10,000 Greek-Romanian joint ventures have been registered over the past six years, while direct Greek investment is estimated at more than \$100m. While most ventures import and distribute consumer goods from Greece,

the past year, reflecting progress in Romania's transition to

a market economy. Greek trade with Romania in 1994 totalled \$186m. a 40 per cent increase over the previous year. Trade has grown more slowly than with neighbouring Albania and Bulgaria. But, because Romania is the largest market in the Balkans, it offers hetter long-term prospects, according to Greek exporters.

Moreover, Greek confidence in Romania is reinforced by the absence of disputes over territory and minority rights. which have hampered Greek companies planning investments elsewhere in the Bal-

Because of their domestic experience at having to cope with bureaucratic obstacles. delays in obtaining licences and permits and inconsistent legal procedures, Greek companies claim they are better equipped than western investors to overcome similar problems in Romania.

Last year, Alpha Credit Bank, the largest private Greek bank, set up an operation in Romania to service a group of larger Greek companies operating there as well as to provide financing for small and medium-sized Romanian companies.

The European Bank for Reconstruction and Development bas a 20 per cent stake in Banca Bucuresti, which has a capital base of \$10m. It is conpartnerships in shipping, con-struction and food processing have flourished. The pace of investment has picked up in trolled by Alpha Romanian Holdings, a holding group established by the Greek bank, in which several large Greek



companies active in Romania also have equity participations. With a loan book equivalent to \$30m, Banca Bucuresti is expected to break even by the end of this year. It bas branches in five provincial cities and plans to open another three before the end of

the year. Banca Bucuresti, which Is staffed mainly by Romanians, many of whom worked for the state foreign trade bank under communism, has grown faster than expected. This reflects strong demand for credit in Romania's burgeoning private economy, now estimated to account for almost 40 per cent

**OUR RESEARCH** 

of gross domestic product, Mr Panagis Vourloumis, chairman of Banca Bucuresti, said: "Small and medium-sized trading companies are the backbone of Greek activity in Romania. But some are developing from exporting to build-

ing a local distribution net-

work and starting locally based

production." In shipping. Greeks have established themselves as the leading managers of Romania's state-owned commercial fleet. Greek owners operate about 40 tankers and freighters belonging to Petromin, the state shipping company, through joint venture arrangements.

the Ceausescu regime fell, but an ambitious shipbuilding programme was still far from com-A Greek owner, Mr Yiannis

Not only were dozens of Romanian ships laid up when

Alafouzos, pioneered shipping partnerships with Petromin by setting up a joint venture to npgrade five newly built Romanian product carriers at Greek shipyards. The cost of refitting the Romanian ships to international standards is expected to be recovered out of operating

The joint ventures give Greek owners an opportunity to operate extra tonnage at a lower cost than buying modern second-hand vessels or ordering new craft

Mr Alafouzos has weathered disputes with Petromin over alleged mismanagement of funds and the attempted sale by the Romanian government in 1993 of Petromin's entire fleet, including the ships operated by Greek owners, to Forum Maritime, another Greek group. The deal was called off following objections from the Romanian parliament

and the privatisation agency.

The Romanian-based joint venture now appears likely to become a longer-term partnership. It operates 12 Romanian ships, refitted by Mr Alafouzos at a cost of \$75m, and has acquired another seven ships in its own name with the help of loans arranged through banks in Greece.

Kerin Hope

WHEN IT COMES TO RESEARCH AND DEVELOPMENT, CANON LOOKS BEYOND

THE SURFACE. WE DIVE DEEPER. GO FURTHER. ALWAYS WITH THE EMPHASIS



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ON ORIGINAL THINKING. ABOVE ALL ELSE, WE BELIEVE THAT NEW TECHNOLOGY MUST BE HELPFUL, NOT HARMFUL, TO PEOPLE AND THEIR ENVIRONMENT. TO MAKE WORK EASIER. LIFE MORE ENJOYABLE. BUSINESS EVEN MORE EFFICIENT. AROUND 8% OF OUR TURNOVER IS PLOUGHED BACK INTO R&D. TO CREATE USEFUL PRODUCTS THAT PEOPLE WANT. OUR GLOBAL RESEARCH ALSO HAS ROOTS IN EUROPE. FROM FUTURISTIC SPEAKERS AND 3D graphics software in the UK. TO ADVANCED TELECOMMUNICATIONS TECHNOLOGY IN FRANCE. WE ALL WANT TO

SHARE A BETTER WORLD, WHEREVER WE LIVE.

SO, TOGETHER, LET'S CARE

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### IN BRIEF

### La Générale hit by capital gains drop

Société Générale de Belgique, the diversified Belgian holding company, reported a fall in net profits in the first half of this year to BFr6.3bn (\$215m) from BFr6.7bn because of a sharp drop in capital gains. Page 18

Winterthur upbeat at halfway stage Winterthur Insurance, Switzerland's aecond largest insurance company, reported strong growth in premium and financial income in the first half of 1995, and forecast another "double-digit increase" in con-solidated net income for the full year. Page 18

Skanska and Aker cement Euroc deal Skanska, Sweden's biggest construction company, and Aker, the Norwegian petroleum, cement and technology group, joined forces to create a leading European cement company through the expansion of the Swedish-based unit Euroc. Page 18

Cosmetics warning could spark price war Shiseido, Japan's largest cosmetics producer, accepted an official warning against enforcing retail prices, opening the way for a further price war in what used to be a market dominated by producers. Page 19

Japanese life assurers downgraded Uncertainty about the Japanese life assurance industry prompted Moody's Investors Services, the US credit rating agency, to lower the financial strength ratings of three of the country's leading groups. Page 19

Hotel group signs deal with Mohegan tribe Sun International Hotels, the international leisure and gaming group, announced a \$250m (£158m) joint venture with tha Mohegans, a tribe of American Indians, to develop a casino and entertainment complex in the US state of Connecticut. The deal will be the first in which an Indian tribe has raised funds on the capital markets. Page 20

Marcopolo explores Japanese way of work A visit to Japan in 1986 hy two senior managers of Marcopolo, the Brazilian bus maker, has resulted in the rare appearance of Japanese styla working practices in Latin America – including production line workers cleaning the toilets. Page 20

### Lucas to pay US government \$88m

Lucas Industries, tha UK automotive and aerospace systems maker, is to pay the US government \$88m to settle a dispute which has led to it being barred from taking any new defence contracts with the Pentagon. It will be taken as an exceptional item in its 1994-95 accounts. Page 21

NatWest sells payroll services to Ceridian National Westminster Bank of the UK is to sell part of its computer services subsidiary Centre-file to Ceridian Corporation of Minneapolis for £33.1m (\$51m). Page 21. . .

Aran to release independent valuation Aran Energy, the Irish oil exploration company fighting a £161m (£249m) hid by US rival Atlantic Richfield Corp, will today publish an independent valuation suggesting that it is worth almost £280m.

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### FINANCIAL TIMES

# **COMPANIES & MARKETS**

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Tuesday October 3 1995

# Wave of UK electricity bids grows

By David Wighton in London

The takeover wave sweeping through Britain's electricity distribution industry intensified yestarday when National Power, the UK'a largest power generation group, announced a £2.8bn (\$4.3bn) agreed bid for Southern Electric, which supplies the south of England. Speculation grew of imminent bids for other regional electric-

lty companies (recs). Houston Industries and Central & South Wast of the US are expected today to launch an increased joint bid for Norweb, which supplies the northwest of England. This may beat the £10.75 cash offer from North West Water by as little as 10p a

The stock market was predicting an

National Power bids £2.8bn for Southern as market prepares for further takeovers

jumped 55p to 920p.

National Power's £10.10 a share offer for

Southern is the biggest in the sector which has seen five other recs receive bids since

PowerGen, National Power's smaller rival, announced a £1.9bn recommended bid for Midlands Electricity last month. Mr John Baker, National Power's chairman, said: "Combining the strengths of National Power and Southern Electric is a logical development in a rapidly developing electricity market. In particular, cus-

offer for London Electricity, whose shares tomers will benefit from our ability to compete more effectively to supply householders when they are free to choose their supplier in 1998."

He said the two companies had discussed setting up a joint venture in supply because they believed a full merger to create a "vertically integrated" group would be blocked by the regulatory authorities. But government ministers have indicated they were not opposed to vertical integration in principle.

Mr Baker said: "There are still competition issues which could stand in the way.

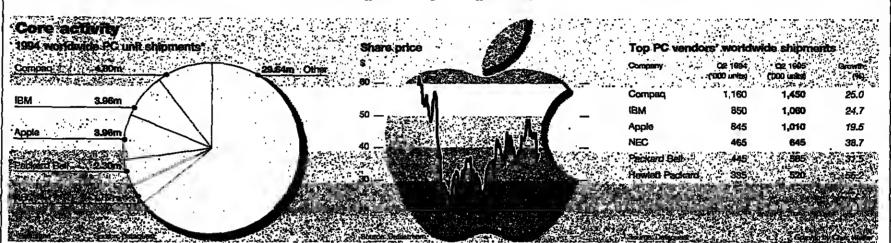
But in my view it should pass the tes since it would enhance competition. Southern's shares rose 69p to 966p, a 44p discount the offer, reflecting the possibil ity that the bid be referred to the Monopolies and Mergers Commission. National Power's shares slipped 121/2p to 5031/2p.

National Power said the deal would enhance its earnings per share but the proposed sale of three power stations, also announced yesterday, would offset this impact leaving earnings "broadly neutral". National Power's gearing will rise to more than 100 per cent temporarily.

The offer consists of 825p in cash and a special dividend of 185p, which, including tha tax credit, will be worth £10.56p for non-tax paying shareholder.

Lex, Page 16

### Components shortage means computer group may miss out on record sales season



### ith problems looming for Apple Computer, some analysts are predicting the imminent departure of Mr Michael Spindler, the company's chief executive, and questioning how long the Silicon Valley pioneer of the personal computer industry can survive as

an independent company.

As Apple's directors gathered yesterday for a regularly scheduled board meeting, speculation was rife that top management changes or a broad restructuring of the company might be called

Yet it may be premature to ring alarm bells for Apple, in spite of soma questionable decisions and competitive threats that have shaken investors' confidence and driven the company's stock down about 27 per cent since July.

Mr Spindler, who stepped up to chief executive two years ago after Mr John Sculley resigned under pressure, has the full confidence of the board, according to public statements by directors, including Mr Mike Markkula, Apple's chairman and

co-founder. Moreover, there is no obvious successor to Mr Spindler among Apple's senior executives.

Similarly, this does not appear

to be an opportune time for a takeover of Apple, in spite of speculation that IBM, Oracle Systems or AT&T might be interested in acquiring the company. IBM has apparently rejected the idea, while AT&T last month announced its intention to withdraw from the PC market as part of a broad restructuring. Oracle, which is believed to be primarily interested in Apple's software, would surely wait until Apple has completed development of a new version of the Macintosb software, scheduled for introduc-

There is no question, however. that Apple faces serious challenges - both in the short term as it attempts to overcome a shortage of components that is hampering its ability to expand Apple will bave computers in the

By Wolfgang Münchau

Deutsche Postbank, Germany's

state-owned giro bank, yesterday

launched its defence against a

DM3.08bn (\$2.1bn) hostile take-

over hid from 8 consortium that

includes Dentsche Post, the

state-owned postal company,

Deutsche Bank and Swiss Rein-

Mr Gunter Schneider, Post-

Postbank and Deutsche Post

are state-owned corporations fol-

lowing last year's split of the old

Bundespost organisation into

three corporations - postal ser-

vices, banking and telecoms. All

Mr Schneider said Postbank

was pursuing an alternative

option. "Our own plans for

co-operation with potential part-

ners would lead to them taking

up to 40 per cent in us, with each

are headed for privatisation.

bank chairman, said the bid was

a "waste of taxpayers money".

In Frankfurt

# Apple counts shopping days up to Christmas

long-term strategy.

Apple's immediate problems stem from its inability to keep pace with strong demand for Macintosh PCs. While the company planned for 23 per cent growth in unit sales for its third fiscal quarter, ending in June, orders increased 35 per cent, well above the market growth rate of about 20 per cent, says Mr Tim Bajarin, president of Creative Strategies Research International, a market research group. The surge in Macintosh orders

reflects Apple's switch to PowerPC microprocessors, a new generation of high-performance chips jointly developed with IBM and Motorola. Apple's failure to anticipate

rapid order growth has left the company short of critical componems. As a result, Apple ended the June quarter with a Sibu order backlog, much of which must be regarded as lost sales. Last month, Apple said the

component shortage would have a negative impact on sales and earnings for the fourth fiscal quarter. It would be early 1996 hefore the problem was fully resolved, the company said Financial analysts fear Apple may miss out on what is expected to he the strongest Christmas sales season in the history of the

PC industry, as demand for bome

computers increases. To minimise the shortfall, Apple is redeploying components that it had planned to use in topranga Macintosb models to increase production of consumer tion next year, industry analysts products, says Mr Pieter Hartsook, an independent computer industry consultant. This may mean that some business customers must wait a few weeks for a new Macintosh computer, but

Postbank fights DM3.08bn

to about DM2.5bn.

per cent for Swiss Re.

takeover bid from consortium

involved, but said the receipts to

the government would amount

The consortium is bidding for

75 per cent of the company, to be

divided on the basis of 40 per

cent for Deutsche Post, 20 per

cent for Deotsche Bank and 15

Mr Schneider said the bid

marked a purely opportunistic

move for Dentsche Bank and

Swiss Re. "If it happens, both

would have lined their pockets.

Deutsche Bank, whose aim like

ours is to think and operate [in

8] profit-oriented [way], would

receive 20 per cent of Postbank

for DM800m." He said Post-

bank's market value was about

DM6bn, based on last year's evalnation by Salomon Brothers, the

Dentsche Postgewerkschaft,

the hid, amid fears that the take-

over might see a reduction in

Postbank's 16,500 workforce.

US investment bank.

taking around 10 per cent." He derman government yes is expected to did not name the parties terday promised a swift investi-

production, and in mapping out a stores for Christmas buyers, ha predicts.

In a move to prevent recurrence of the component shortages, Apple is redesigning its computers to incorporate more industry-standard parts. This will enable the company to purchase components from a broader range of suppliers, making demand forecasts less critical.

E ven Apple loyalists, how-ever, worry about the lon-ger-term prospects for the company, as competition intensifles from manufacturers of standard Wintel PCs hased on Microsoft's Windows software and Intel microprocessors.

With Apple's share of the world PC market dwindling to less than 8 per cent, down from about 15 per cent in the late 1980s, the company is increasingly seen as a niche group focused on the edu-cation, publishing and design segments of the PC market.

The recent introduction of Microsoft's Windows 95, which matches many of the features of Macintosh software, bas higblighted Apple's isolation as the only non-standard PC manufac-

Apple's claims to superior ease of use are being eroded by advances in the Windows operating system. There used to be obvious differences between the Macintosh and standard PCs. says Mr David Card of International Data Corporation, a market research group. "Now it is difficult to differentiate between

When the next generation of PC operating systems appear, in about 18 months. Microsoft will take the technology lead, as well as maintaining its market leadership, Mr Card predicts. Already, software developers

gation of the takeover hid. Mr Wolfgang Bötsch, minister for

post and telecommunications,

was said to be open-minded

abont the consortinm hid

because it fulfilled all the crite-

Mr Schneider said Dentsche

Bank, "like other financial insti-

tutions, suffers from cost pres-

sure dne to under-utilised

branches. You will have noticed

that they have just made a mas-

sive investment in a direct bank-

ing network, which will be a

immediate competitor to Post-

bank in the field of standard

Mr Schneider dismissed a

claim that the consortium bad

the backing of Mr Helmut Kohl,

takeover is intended to lift Deut-

sche Post last year made a net

loss of DM2.9bn, while Postbank

made a a profit of DM51m, which

is expected to rise this year.

There are suspicions that the

ria in postal law.

financial products."

the postal union, also criticised sche Post's profitability. Deut-

the German chancellor.

To date, only three small US manufacturers have hecoma Mr Spindler promises that additional Macintosh licensees will soon be revealed. However, the

who write application programs are putting most of their efforts current shortage of Macintosh components could only be exacerinto addressing the far larger bated by the entry of new Macinmarket for Windows programs. tosh clone manufacturers. Similarly, computer retailers Apple's hopes are pinned on are dedicating less shelf space to the joint development, with IBM, Macintosh software, giving conof a common hardware reference

platform (CHRP); a computer that could run applications designed for the Macintosh, sumers the impression that there are fewer programs available for Apple's computers. Without a flow of new applica-Microsoft's Windows or IBM's tions software. Apple could quickly be doomed to obscurity. competing OS/2 Warp PC operating system. Apple has been urging IBM to The company must therefore reverse this trend, either hy increasing its share of the PC adopt Macintosh software for CHRP, but without success. IBM

market, or hy licensing other says it has no plans to give up the struggle to establish its own companies to make Macintosh OS/2 operating system as an The latter has long been an alternative to Windows, or to issue of debate within Apple. license Macintosh software. Mr Sculley, Apple's former chairman and chief executive, is Mr Spindler has six months to solve Apple's problems, some widely hlamed for missing oppor-tunities to establish the Macin-

industry analysts predict. Others give him as long as 18 months. Either way, the clock is ticking.

Mr Spindler moved quickly to launch plans to license Macin-tosh technology to third parties.

### French bank chief calls for reforms

By Andrew Jack In Paris

Mr Jean Peyrelevade, chairman of Credit Lyonnais, the French state-owned bank, yesterday criticised the widespread practice of appointing outsiders drawn from an elite band of former civil servants to senior positious in French companies rather than promoting people from inside the

Mr Peyrelevade said too many company executives ware appointed externally and called for reforms to create a more "collegiate" style of management

in boardrooms. He also argued for tough prudential regulations on mntual banks to ensure they did not offer loans on unprofitably low

Mr Peyrelevade's comments came after bis decision last week to appoint a senior executive from Saint-Gohain, the paper and packaging company, to his four-person top committee within the bank, He said "capacity to do the job" was the sole reason for his choice. Mr Thierry Marraud comes from neither of the top French postgraduate col-leges, which bave heen a source of many senior executive

appointments to companies. Mr Peyrelevade regretted the fact that the legal statutes of Crédit Lyonnais required that the chairman be appointed by the government, and said he had tried to persuade ministers to change these rules on a number of occasions since be took charge

in November 1993. He criticised the "monarchic" power of chief executives of French companies, and said he was trying to encourage governance whereby power was shared, so internal candidates gained experience, allowing

them to be promoted to the top. Separately, Mr Peyrelevade joined private sector rivals in criticising France's mntual banks, but said the way to produce change was to introduce regulations such as those in the insurance sector which would force the mntuals to make provisions on loans made below cost.

He also believed he was the target of a "destabilisation" campaign of false rumours about bis salary. He said he had originally asked for FFr2m (\$407,000) a year in salary when he took over the bank, but had taken e cut to FFrl.8m six months later when he began to implement cost-cut-

Lex, Page 16; Anglo-Saxon influ-Louise Kehoe | ence. Page 18

### AXA

tosh as an alternative industry

standard by licensing Apple's

software widely.

has acquired a 51% economic interest in

### The National Mutual Life Association of Australasia Limited

upon its demutualisation.

We acted as financial adviser to AXA in this transaction.

### Goldman Sachs International

Regulated by The Securilies and Futures Authority



Deutsche Telekom

expects results rise

Deutsche Telekom, the German telecommunications operator

scheduled for privatisation next year, yesterday forecast 1995

Sommer, chief executive, refused to give precise figures, but

said 1995 profits would be "significantly" higher than the

sales of DM67bn (\$47bn), DM3bn higher than last year. Mr Ron

The increase would come from productivity gains and a new valuation of the company's assets. The improved figures are important because the group is to be floated in Germany, the

US and Japan next year as part of Germany's biggest ever

AssiDomän to buy Hasselfors

The battle by AssiDomān, the Swedish pulp and paper group, to acquire the investment company Hasselfors and its big forestry holdings finally appeared over yesterday when the

Hasselfors board accepted an increased SKr1.34bn (\$193m) bid

Hasselfors had held out for a higher price since Assi first

were ready to accept. Assi increased its offer last month to

The main force behind Hasselfors' resistance was Investor, the main Wallenberg family holding company, which owns

20.8 per cent of the voting capital. Investor accepted the latest

Hasselfors when combined with shares it already holds. Assi's

main interest was to acquire Hasselfors' forest boldings in the

factory. Under the terms of its final offer, it dropped an earlier

Hugh Carnegy, Stockholm

undertaking not to make substantial changes in Hasselfors'

revised hid, guaranteeing Assi 56.5 per cent of the votes in

Hasselfors region where Assi has a sawmill and a carton

SKr265, but was again rebuffed and forced to bid a final

SKr272 per share to win the recommendation.

proposed a bid at SKr255 per share in late August, an offer several of Hasselfors' institutional shareholders indicated they

equity placing, expected to raise about DM15bn.

**EUROPEAN NEWS DIGEST** 

Dm1.3bn reported in 1994.

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### INTERNATIONAL COMPANIES AND FINANCE

# La Générale blames weaker capital gains for fall

Société Générale de Belgique, the diversified Belgian holding company. yesterday reported a fall in net profits. from BFr6.7bn to BFr6.3bn (\$215.5m), for the first six months of the year. It blamed the fall on a sharp drop in capital gains.

The result included a steep fall in exceptional profits, from BFr1.6bn to

profit from ordinary activities, to BFr6bp. The exceptional profits for the first half of 1994 were attributed to the sale of Union Minière's remaining stake in Union Zinc.

The exceptional profits of BFr333m were mainly from a capital gain realised by Generale Bank, a subsidiary, taking up the purchase option on its headquarters. Mr Etlenne Davignon, president, said be expected the group's profit on ordinary activities

this year to be higher than in 1994. The rise in profit on ordinary activities was attributed to the "more or less universal improvement in group profits and to the increased stakes acquired in those companies with the ket activities. highest profit growth". The company said overall profits were influenced by increased depreciation for goodwill, particularly because of the consolida-

tion of Coficem/Sagem, the electronics

subsidiary, for the first time.

Net profits on ordinary activities at reduced, from 63.4 per cent in 1994 to Generale Bank, Belgium'a biggest, rose from BFrl6bn to BFr2bn as a result of increased customer deposits and the expansion into financial mar-

Union Minière's net profits jumped from BFr148m to BFr427m in spite of a poor operating environment caused by falling zinc prices and the US dollar. Generale's share in the company's half-yearly operating profit has been 50.2 per cent in 1995. Tractebel, the Belgium energy group, saw net profits rise from BFr2bn to BFr2.2bn, with all the group's activities reporting well.

Société Générale de Belgique saw the appointment of a new French chief executive, Mr Philippe Liotier, in September following the departure of Mr Gerard Mestrallet to France's Suez. La Générale is 63 per centowned by Suez.

# Skanska and Aker Winterthur upbeat at halfway stage to create leading

By Hugh Carnegy in Stockholm

Skanska, Sweden'a biggest construction company, and Aker, the Norwegian petroieum, cement and technology group, yesterday joined forces to create a leading European cement company through the expansion of the Swedisbbased unit Euroc.

Aker is to merge its cement and building materials operations with the existing Euroc operations into a new company, as yet unnamed.

The new Euroc will have annual sales of around NKr15.5bn (\$2.5bn), with almost balf outside its core Nordic markets. Market share in Norway and Sweden will be around 90 per cent.

As part of a complex round

of deals to establish the new company, Aker is buying a 25 per cent stake in Euroc currently held by the Finnish group Partek for NKr2.1bn. At the same time, Aker will receive NKr3.7bn for the operations being merged with

Euroc, including NKr2.7bn in cash and the balance in new Euroc shares Meanwhile, Skanska is paying SKr1.2bn (\$172m) for 6.4m Euroc shares beld by Robur, a

Swedish investment company,

The Euroc-Aker merger is expected to yield savings of up to SKr150m within three years. Skanska and Aker said the new company's principal objective would be international

"It will be better able to meet the increasing competition in the European market, which is characterised by steadily

Mr Sven Ohlsson, Euroc's chief executive, who will also lead the new company, said be thought the value of the deal was not enough to attract investigation by the European Commission's competition

a reaction from the Norwegian and Swedish authorities, whose approval is required before tha new company can begin trading as planned from January next year.

will make a capital gain on the FM500m (\$117m).

Yesterday it announced a swing back to a profit after financial items in the first eight months of FM115m, after a loss last time of FM27m on sales up marginally to FM4bn. By Ian Rodger in Zurich

Switzerland's second iargest insuranca company, has reported strong growth in pre-mium and financial income in the first half of 1995, and forecast another "double digit increase" in consolidated net income in the full year.

than expected, and the regis-tered shares advanced 3 per cent yesterday to SFr785. Winterthur said its optimistic profit outlook was made possible by a lower claims ratio in non-life insurance, favourable developments in the expense ratios in both life and non-life business, and a good financial

Gross premium income in non-life business was up 8.0 per cent to SFr6.89bn (\$6bn) in

Industrivarden, the Swedisb

investment group, yesterday

spurned a SKr4.3bn (\$621m) bid

for its packaging subsidiary

PLM from Ball Corporation of

the US and decided to go ahead

with a planned public offering

to its own shareholders

A 55 per cent share of PLM,

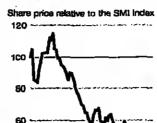
Europe's third-largest beverage packaging group, is to be

offered to Industrivarden

By Hugh Carnegy

instead.

and Nicholas Denton



reinforced by favourable mar-

shareholders later this month,

with a further 20 per cent to be

sold later, depending on mar-ket conditions, Sbareholders

will be entitled to buy one PLM

share at SKr74 for every two

shares held, implying a total

value for PLM of SKr3.2bn - in

Although Ball's bid exceeded

this figure, it fell slightly short

of the SKr4,5bn-SKr5bn open

market valuations which

Industrivärden management

felt it could recommend to the

board. Ball attempted to

effect a befty discount.

ket conditions. The expense ratio also fell, from 27.9 per cent to 27.5 per cent. On the life side, gross premi-

Insurance of Germany. The expense ratio rose from 9.5 per cent to 10.8 per cent.

Investment income was up by a third to SFr2.02bn, and the value of the group's investment portfolio at the end of June was SFr67.32hn, 30 per cent higher than a year earlier. Mr Peter Spälti, chairman, predicted that the group's total premium income in the full year would grow about 10 per cent to SFr22.5bn. In local currencies, the advance would be

15 per cent, of which about half would come from acquisitions.

Mr Spalti said that Winterthur felt under no pressure to seek an alliance in the Swiss market with a bank in the life insurance sector as its major competitors Zurich Insurance and Swiss Life have done. He said Winterthur was gaining market share in its domestic

### Valmet ahead strongly

Valmet, the Finnish engineering group, yesterday reported a big improvement in results for the first eight months. Profits after financial items recovered from a loss of FM74m to a FM328m (\$77m). The group repeated earlier forecasts that net sales would rise nearly 15 per cent on a comparable basis this year to about FM8.5bn and results would improve.

Operating profits at its biggest business group, paper and board machinery, would rise markedly this year. In 1994, Valmet's paper and board machinery's operating income was FM125m. Net sales were FM5.47bm. The net sales for 1995 would rise to more than FM6bn. The division received new orders worth FM6.48bn in the January to August period, an increase of 74 per cent. At end-August, the order backlog was FM5.72bn. Eight orders for new, complete machines have been

### Schindler to repurchase shares

Schindler, the family controlled Swiss elevators and escalators group, is offering to buy back its bearer shares at SFr6,200 each as a prior step to converting this class into registered shares or participation certificates. The group, which shocked investors in July with a forecast of a 50 per cent profit slump this year, said it would improve disclosure practices by adopting more widely accepted accounting practices from next Ian Rodger, Zurich

### Profit and debt up at Parmalat Parmalat, the fast-growing Italian dairy and foods group,

increased pre-tax profit by nearly 19 per cent to L89bn (\$55m) in the first six months of 1995, but also reported a rise in net debt. In the first half of 1994, the company declared a pre-tax profit of L75bn, on sales of L1,785bn. Sales in the first half of this year increased more than 14 per cent to L2,043bn but net iebt also rose, reaching L1.037bn on June 30, against L961bn a the end of last year. Parent company results slipped slightly to L30bn, against L32bn in the first half of 1994, and Parmalat said it axpected a broadly similar result for the second half of

### Ifil increases 20% at halfway

Ifil, the Italian industrial holding company controlled by the Agnelli family, increased consolidated pre-tax profit by 20 per cent to L374bn (\$232m) in the first half of 1995, helped by the improving performance of Flat, the car and industrial group. The company also revealed it had eliminated its debt in the first half. At December 31, the group had net debt of L604bn, and at June 30 net cash of L2bn. In the first half of last year, Ifil recorded a profit of L311bn before tax.

The holding company owns large stakes in Flat, Saint Louis, the French food and paper group, Danone, the French foods group, Rinascente, Italy's largest retailer, and Unicem, the Italian cement company.

The group, which is itself controlled by Ifi, the main Agnelli holding company, said it expected 1995 net consolidated profit to exceed the 1994 figure of L280bn.

### GEC Alsthom earnings grow

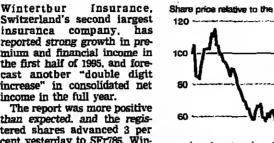
GEC Alsthom, the Anglo-French power, transport and engineering group, increased net profits by 3 per cent to Ecus338.9m (\$446.8m) in the year to the end of March. The company, owned jointly by Alcatel Alsthom of France and GEC of the UK, said the result was achieved on sales of Ecus8.98bn, a rise of 13.3 per cent over the previous year. Mr Pierre Bilger, chief executive, said the period had been marked by a difficult environment and strong competition. He attributed the profits rise to continued improvements in

# cement company

larger and more efficient units." Aker said.

authorities. However, he did not rule out

Partek, which concentrates on minerals, cargo handling and building products, said it sale of its Euroc stake of



ratio dropped from 76.3 per cent to 73.3 per cent. Winter-thur attributed this improvement to portfolio streamlining, premium adjustments and the implementation of stricter underwriting guidelines,

1990 91 92 93 94

ums jumped 42.8 per cent to SFr5.29bn, with about half of the growth coming from the

increase its cash and stock

offer but the improvement was

largely negated by a fall in

Ball's share price and the dol-lar against the Swedish krona.

SCA. the Swedish forest com-

pany, and AGA, the industrial

gas group, which together own

25 per cent of Industrivärden,

were believed to favour the

Ball offer, But other Industri-

värden shareholders are under-

stood to have threatened to

call an independent investiga-

tion into the deal if the Ball bid

director-general" who rules

with unchallenged power over

a company, and whose board

members are drawn from a circle of external contacts, creat-

ing a "glass ceiling" which pre-

vents employees making it to

the top of their own group. He

points to the recent decision to

appoint from Inside Crédit

Lyonnais a 40-year-old as director for information technology

- promoting the idea that internal candidates can rise,

and rise quickly, on merit rather than simple seniority:

The captain and not just the

colonel can become a general."

to attack the idea of the

all-powerful chairman who

reflects like a guru and then

says 'we will do this' ". He has

thrown tha onus instead on his

15-member board, which he

goes away for a few days,

Peyrelevade is also anxious

Industrivärden plans PLM share offering Mr Rolf Börjesson, PLM's chief executive, welcomed the Industrivärden decision and said he was confident the company would prosper on its own.

"I don't think it is so important to be number one in size. The important thing is to be big enough to meet your customers' needs and we are in that position. I do not agree with the arguments about the need for global strategies. There are not too many synergies between the US and Europe in beverage packaging."

### Peyrelevade starts to exert an Anglo-Saxon influence

The chairman of Crédit Lyonnais plans big changes in corporate governance, reports Andrew Jack

Peyrelevade, chairman of Crédit Lyonnais, is beginning to change. Almost two years after taking charge of the state-owned bank, he is starting to look to the future and for the first time claims to

be enjoying what ha is doing.
After innumerable tussles with the French government, the European Commission in Brussels, his auditors, debtors and banking rivals to push through a huge financial rescue package, he declares that "the first act is over". He is now getting to grips with the considerable but very different challenges which lie ahead in "relaunching the machine". "in the first 18 months I can

honestly say I had no pleasure of any sort," he says. "It's clearly more enjoyable now." By the start of this summer, he had agreed in outline the package which will allow the bank to remove FFr135bn (\$27.5bn) in assets from its balance sheet into a company called CDR. These would then be sold, a process underwritten by the state. The final formalities should be completed early next month when the French assembly passes the law allowing the plan to go ahead.

Now Mr Peyreiavade is happy to be able to deflect all questions relating to the bank's past misfortunes and

Lire 50,000,000 nominal

amount of Note.

The mood of Mr Jean mismanagement, including the loans to some of its more controversial clients, such as Mr Bernard Tapie. They are all being handled through CDR, which is managed indepen dently, and are no longer the concern of Crédit Lyonnais. He says the storm has

passed. Several thousand net new customers are opening accounts every month, compared with a net decline over the previous few months. Mr Peyrelevade has begun to

put into practice some of his

ideas about the management of the group, which he believes stand in stark contrast to the French norm. A strong believer in Anglo-Saxon style corporate governance - partly inspired by his experience on the boards of companies in the English-speaking world - be set up an executive committee of four to debate the most important decisious shortly after he joined the bank in November 1993. Earlier this week, he announced a new member of the committee. Mr Thierry Marraud, a senior executive with Saint-Gobain, the paper and packaging group, is to replace Mr Dominique Bazy, Mr Peyrelevade's right hand man, who is rejoin Union des Assurances de Paris, the insurance group.

In contrast with many aenior appointments in French com-



Peyrelevade: "The captain, not just the colonel, can be general"

drawn from the ranks of either of the country's two most elite colleges, the ecole polytechniqua or the école nationale d'administration (Ena). Nor was he a close friend of Mr Peyrelevade. He was picked instead by a firm of head-hunters, and this more objective process was designed to send a mes-

US\$300.000.000 Eagle Pler Corporation B.V.

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**JPMorgan** 

panies. Mr Marraud is not sage, largely to those inside the bank. "Whether he is an Enarque or polytechnicien: the eye col-

our, age and sex are completely irrelevant to me, says Mr Peyrelevade, himself a polytechnicien. "The sole criterion is the capacity to do the job." His idea is to attack the idea of the monarch-like "president

has charged with spending the next six months developing strategies for each business division, in conjunction with 200 of their staff. Meanwhile, he is placing

continued emphasis on four areas: continuing to improve the quality of risks the bank undertakes; cutting costs; and limiting the size of the balance sheet. The fourth, and most difficult, is the development of banking income - the challenge over which he is turning to his subordinates.

quality of responses and to arbitrate". One challenge will be to decide for each part of the bank what combination of ratios should be used to assess performance. He plans to compare Credit Lyonnais' performance in these areas against a number of other French and international banks, including Société Générale, Crédit Agricole, Citicorp, National Westminster Bank and Barclays. Mr Peyrelevade says he

He sees his own role as "to

set up the constraints, lay out the major objectives, judge the

dreams of an organisation in which the "organigram" or chart which lays out the responsibilities of senior staff no longer exists, and execu-tives become used to the idea of constant change. All of these practices origi nate in his proclaimed bellef in

a collegiate style of management, which he argues is the way to develop talent from within the bank which will be able to take over the most senior jobs in the future. This despite the fact that the bank's statutes currently require that the chairman is appointed by the government - a fact he "regrets". He bas repeatedly lobbled the administration to change, but reform may have to wait for privatisation, which he expects within four or five vears.



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Marian -Overseas huyers now own a higher proportion of the shares

in Tokyo

listed on the Tokyo Stock Exchange than at any time in its history, according to figures published yesterday by Yam-aichi Research Institute, The figures reflect the importance of the role played hy foreign mvestors in the recent recov-

ary in Japanese equity prices. They show that foreigners' investments on the exchange's first section bad reached Y30,183bn (\$306bn) by September 22, 8.99 per cent by value of all stocks, passing the previous high of 8.8 per cent, in March

Since April, foreigners bave been the principal buyers of Japanese equities, with total net purchases of more than Y2,500bn. The growth reflects decisions by big US and European pension funds and investment trusts to raise the Japanese allocations of their equity

The aggressive buying has helped produce a rally in the equity market. Since the beginning of April, the Nikkei index of 225 leading stocks has risen by more than 15 per cent.

### Among the other categories of investors, this year only individuals, who have made a surprise return to the stock

market, have been net bnyers. Life insurers, non-life insurers, investment trusts and industrial corporations have been heavy net sellers. Banks, which bought aggressively in the summer, turned net sellers in August and September as they approached the end of the first half of their financial

The growth of foreign ownership at the expense of domestic ahareholders has been a fea-ture of ownership patterns in the Japanese stock market for most of the last two decades. Only in the late 1980s were foreigners consistent net sell-

year.

ers of equities, realising big gains from the rapid growth of stock prices during the so-called bubble years. They returned to the market m 1990 and have been net pur-

chasers every year since, in spite of the precipitous drop in

Since that year, the only other consistent net buyers have been the banks. All the other main categories of myestor have been reducing their ahare of equity ownership.

### Japanese in talks on Indonesian telecoms

By Manuela Saragosa in Jakarta

Marubeni Corp and Nichimen Group of Japan are in talks to take a stake in an Indonesian joint venture company partly owned by France Telecom, which has been awarded a contract to install 500,000 telephone lines on the Indonesian island of Sumatra.

Earlier this year, the joint venture, PT Pramindo Ikat Nusantara, won one of the five joint operating contracts awarded to domestic and international private companies to bulld and operate telephone lines in four parts of Indonesia.

The joint operating schemes were designed to pave the way for the partial privatisation of state-owned domestic carrier PT Telkom before the end of this year, by guaranteeing part of its profit from the new prioperations.

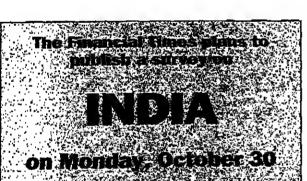
shares in a simultaneous initial public offering on the New York, London and Jakarta stock exchanges within the

PT Pramindo Ikat Nusantara

is majority-owned by a unit of Indonesia's Astra International. Its other shareholders include France Cable et Radio, unit of France Télécom. Nichimen Group and Marubeni Corp are seeking a minority stake in the joint venture company, although it is not yet clear which shareholder will reduce its stake to make way for the Japanese investment.
PT Pramindo, which will install 500,000 lines on Sumatra by early 1999, will operate the regional system for 15 years.

Under the contracts awarded for the joint operating schemes in June this year, private companies will install 2m telephone lines, effectively douthe next three years, at a cost

Telkom is expected to list of about US\$3bn.



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### INTERNATIONAL COMPANIES AND FINANCE

### \* Foreign investors hit new high on Tokyo exchange EDS buys into Tadira software subsidiary By Julian Ozanne in Jerus Shiseido accepts warning into Tadiran on retail pricing tactics

By William Dawkins in Tokyo

food and beverages, in which

price discounting has loosened

producers' grip. Mr Yosbtharu Fukuhara,

Shiseido president, said the

group was complying with the

FTC's ruling because there was a "perceived gap between some

parts of Shiseldo's market

strategy . . . and consumers

demands, and the changing

distribution system in Japan".

The FTC had warned Shis-

aido it was contravening

anti-monopoly laws in putting

pressure on retailers not

By Julian Ozanne in Jerusalem General Motors' Electronic Data Systems has bought 50 per cent of the shares in Tadiran Information Systems, a software subsidiary of one of Israel's largest electronics and telecommunications compa-

The deal, worth \$9m, is part of Tadiran's search for strategic international partners. It should boost the forthcoming global shara issue of Koor Industries, which holds a 62 per cent stake in Tadiran. Mr Israel Zamir, chief execu-

tive of Tadiran, said the aim of the deal was to increase substantially Tadiran's software sales. EDS had global sales last year of \$16.1bn.

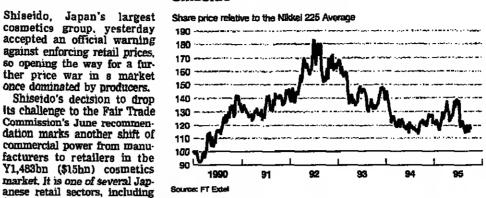
Tadiran Information Systems, which bad sales of \$26m last year, develops soft-ware applications and systems for administration, finance, logistics and manufacturing. Among EDS's contracts, meanwhile, is computerisation

of the British tax system. Tadiran's computer software business, which comprises TIS and two other publicly-traded companies, contributed \$43.9m, or 5 per cent, of Tadiran's total \$863m revenue last year. Lehman Brothers, which rated Tadiran "ontperform", said in a recent report it expected computer revenues to grow 24 per cent in 1995, to \$55.2m, and total revenues to

rise to \$1bn this year. Mr Benny Gaon, Koor Industries chief executive, said the Tadiran deal was a part of Koor's strategy of linking with large international companies. Volvo of Sweden, Germany's Henkel and Canada's Northern

Telecom have bongbt - or

taken options to buy - stakes in Koor-owned companies. Koor, Israel's largest and most profitable industrial con-glomerate with sales of \$3bn, is preparing an international roadshow to sell a global offering of American depositary shares worth \$130m-\$150m.



to discount its products. Daiai and Jusco, the leading supermarket chains, were obliged to stop discounting Shiseido products because they feared the company would retaliste by ceasing deliveries, according to the FTC. Shiseido still denies making such threats. Since the FTC ruling, Daiei. Jusco and other supermarkets have offered beavy discounts on cosmetics, formerly priced - on producers' insistence - two to three

times average world levels. Traditionally, Japanese cos-metics are sold via the

so-called "face-to-face" system, in which beauty councillors, trained by cosmetics companies, give customers advice on how to use cosmetics.

Manufacturers argued that such a service justified high product prices. Daiei, however, challenged that contention by offering its customers both discounts and the service of instore beauty consultants.

### Japanese insurers downgraded

**By Gerard Baker** 

Uncertainty about tbe Japanese life insurance industry prompted Moody's Investors Services, the US credit rat-ing agency, to lower the financial strength ratings of three of the country's leading insurers yesterday.

It downgraded Dai-Ichi Mutual Life and Meiji Mutual Life from Aa2 to A1, and Sumitomo Life from Al to A3.

The agency said the move reflected deteriorating conditions for the three companies, which saw a decline in core profitability as a result of continuing asset deflation and low interest rates. Investment income remained

vulnerable to volatile market conditions, while the companies continued to rely on capi-

tal gains to bolster their earnings, Moody's said. Continuing deregulation was also expected to damage the outlook for the life insurance industry as a

Dai-Ichi and Meiji's slightly stronger ratings reflected the higher levels of latent reserves on their books in the form of unrealised securities gains. However, Moody's said all

three companies' overall financial strength remained good, partly thanks to the level of regulatory support the industry enjoyed. The Japanese life insurance

sector has suffered heavily from sharp declines in domes-tic equity and real estate prices in the past five years. These problems bave been compounded by the strong yen, which has reduced the value of

many insurers' overseas investments, and falling interest rates.

The thre companies' new ratings will still leave them, in Moody's definition, in the overall "A" category, offering "good financial security", though with the risk that their strength may be susceptible to

"impairment".
For Dai-Ichi and Meiji, yes-terday's announcement represents the second downgrade in three years, while Sumitomo's rating has been lowered three times in the same period, Until 1992, the three companies enjoyed the highest, Aaa rating, Moody's assigns to life insurers. The downgrades will not affect funding costs directly, since the companies raise their money from custom-

### **NEWS DIGEST**

### **Argyle partners** refocus mine plan

The partners in the Argyle diamond mine in Western Australia have reacted to falling world diamond prices with a

new plan designed to increase production of larger stones. The companies, CRA and Ashton Mining, announced yesterday the main effect of the change would be to exclude lower-value diamonds of less than 1.5mm from the recovery process. This would immediately increase annual treatment plant capacity by 1.1m tonnes and reduce operating costs. It would cut volume by about 15 per cent, but was expected to

increase revenue by about 10 per cent. Mr John Robinson, chief executive of Ashton Mining, said yesterday markets would need to adjust to what was a substantial change. "This is an important step in the continuing process of improving Argyle's competitiveness in

the international diamond industry," he said.

Argyle, the world's biggest diamond mine by carat production, suffered a setback in July when the Central Selling Organisation (CSO), the international diamond cartel operated by De Beers, the South African diamonds group, cut the project's average prices by 11 per cent. The cut, a reaction to Russian diamond sales, has particularly hit the Argyle project, where production is only about 5 per cent gem grade. Argyle sells about 80 per cent of its output through the CSO. Bruce Joques, Sydney

### Randgold buys Tanzanian stake

Randgold & Exploration of South Africa has acquired a 25 per cent stake in a gold mining project in Tanzania for \$1m, with options to increase its interest in the project. These are subject to financing further exploration and securing project finance. Randgold said only limited further exploration was required at the Golden Ridge project, which adds to the group's exploration efforts in West and Central Africa, before a pre-feasibility study can be conducted. Randgold & Exploration is South Africa's smallest mining bouse, owning four marginal gold mines and widespread mineral rights throughout Africa.

In July 1995, it merged its Blyvooruitzicht gold mine with the neighbouring Doornfontein gold mine owned by mining bouse Gold Fields of South Africa, in the hope that the loss-making mines would perform better as one operation.

AP-DJ, Johonnesbury

### Ishihara Construction debt deal

Financial institutions bave agreed to forgive Ishihara Construction Y10.9bn (\$110.5m) in debt as part of a package to rescue the financially troubled Japanese contractor. With the rescue package, "Ishihara's restructuring is almost completed", Tadashi Shimizu, a lawyer for Ishihara, said, Ishihara's debt stood at Y61.5hn on August 31. However, it

had reduced this to Y35.8bn by the end of September, after the 15 creditor banks forgave debt worth Y10,9bn, and seven other creditor banks agreed to let Ishihara move debt of Y14.8bn to three affiliates, Mr Shimizu said. The Y14.8bn would eventually be forgiven, he said.

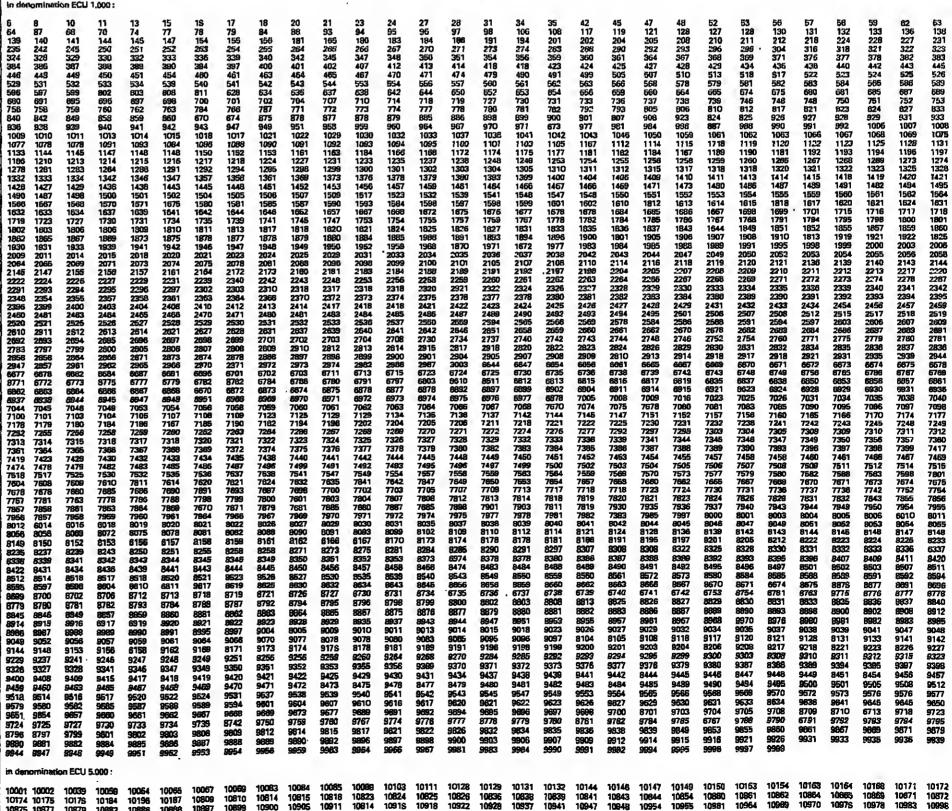
Mr Shimizu said the rescue package also included a cut in the repayment of Ishihara's remaining debt. It also stipulates that the financial institutions will forgive Y23.7bn of debt at Ishihara's affiliates, which Ishihara had guaranteed, he said.

Reuter, Tokyo

**EUROPEAN COAL AND STEEL COMMUNITY** ECU 15.000.000 8% BONDS DUE 1996 SEMI PRIVATE PLACEMENT

We inform the Bondholders that the redemption instalment of 3.000.000, nominal due on November 7th, 1995, has been satisfied by a grawing on September 15th, 1995, in Luxembourg

The serial numbers of the Bonds selected for redemption are as follows:



THE PRINCIPAL PAYING AGENT **\$OGENAL** 15, AVENUE EMILE REUTER **LUXEMBOURG** 

By Leslie Crawford in Mexico City

Aegon, the Dutch insurance group, is to pay \$250m for a substantial stake in Seguros Banamex, the insurance company of Grupo Financiero Ban-amex-Accival, Mexico's largest financial group.

Seguros Banamex began operations in April this year with a paid up capital of 40m pesos (\$6.28m). At the end of June, the company handled premiums worth 84m pesos.

It is gradually taking over all the life insurance policies linked to some 250,000 mortgages extended by Banamex, Mexico's largest commercial bank, which holds about 30 per cent of the country's market in home loans.

Mr Donald Shepard, chairman of Aegon Insurance of the US, said Aegon's valuation of Seguros Banamex reflected the potential of the insurance business in Mexico. "Having a partner like Banamex gives us con-fidence that we will be major players in the life insurance business," he said

Aegon has paid \$109m for a 49 per cent stake in the Mexican company and a further \$141m in debentures that will be convertible into equity of Seguros Banamex-Aegon after

The insurance industry in Mexico is under-developed, not only in comparison with the US but with other countries in

It accounts for only 1.5 per cent of Mexico's gross national product, against 8.3 per cent in the US and 5.2 per cent in Brazil. Less than 8 per cent of honsebolds in Mexico have insurance, and only 20 per cent of the labour force hold life

insurance policies.
The total value of insurance premiums in Mexico at the end of 1994 amounted to 20.5bn

The industry, however, is expected to grow rapidly once the government begins a widespread overhaul of Mexico's state-run social security system, announced by President Ernesto Zedillo earlier this year. The reforms are expected to authorise the operation of private pension fund management companies and insurance products designed to encourage Mexicans to save more.

"We are on the verge of major changes in the domestic savings market that will create opportunities for the insurance industry," Mr Manuel Medina Mora, deputy president of Ban-amex, said yesterday. He added that Banamex's branch network would be used to sell a wide range of insurance products, including life, health and accident policies.

The announced reforms have awakened the interest of other foreign insurance companies in Mexico. Earlier last month, Allianz of Germany entered the Mexican market through an alliance with Bancrecer, a

### Banks sell branches ahead of merger $\checkmark$

By Maggie Urry in New York

Fleet Financial and Shawmut National, two New England banks currectly working on completing a \$3.4bn merger announced in February, have found buyers for 64 branches they had been required to sell by the competition authorities. The two banks sald in

August that the substantial overlap hetween their operations, especially in Connecticut and Massachusetts, had caused the state authorities, the Federal Reserve Bank and the US Department of Justice, to require disposal of the

Fleet said yesterday that the agreement to sell the branches, 'satisfies a major requirement for Federal Reserve approval of the pending merger". The merger is expected to be completed early next year.

The branches, in Connecti-

cut. New Hampshire, Massachusetts and Rhode Island,

and \$1,7bn in loans. Following the sales, the combined bank is expected to have assets of \$81hn, with deposits of around

The branches are being sold in parcels with Webster Financial, a Connecticut based bank. buying the largest group of

will be calculated at 6.25 per cent of the deposits the branches have at closing. They currently have deposits of \$1bn, suggesting a price of \$62.5m. hut it is expected that the deposits will have fallen by the completion date, perhaps to \$900m.

As part of the consideration Webster is giving two of its branches to the combined Fleet/Shawmnt.

Webster plans a \$27m share offer to help finance the purchase, which will make it the second largest Connecticutbased bank with 63 branches.

### Indian tribe joins casino venture

Sun International Hotels, the leisure and gaming group, yesterday announced a \$250m joint venture with the Mohegans, a tribe of native American Indians, to huild a casino and entertainment complex in Connecticut, The deal, financed partly by

a \$175m institutional placing, is the first in which an Indian tribe has used capital markets to raise funds.

Mr Sol Kerzner, the South African entrepreneur and chairman of Sun International, said: "This is a milestone. No Indian tribe has raised money on Wall Street before."

Speaking in London yester-day, he claimed the placing had been heavily over-subscribed and hinted that other

tribes could come to the mar- more than two years of negotikat to fund gaming develop-

He also announced plans for a public share offering in Sun International, which operates 33 hotels and nine gaming resorts around the world, including Sun City in the former black bomeland of Bophu-

While declining to put a timetable or size on the offering, Mr Kerzner predicted it would increase liquidity in Sun International, which is quoted on Nasdaq but remains tightly

offering would be channelled into further developments in North America, he added. The deal with the Mohegans

Funds raised by such an

is Sun international's first foray in the US and follows

100

industry in 1993.

ations with tribal leaders.

Mr Kerzner said the 240-acre development at Montville, near Hartford, would be completed within 12 months and would employ 3,500 people. Under the deal, the 1,100 members of the Mohegan tribe will receive up to 70 per cent of the profits from the complex.

The remainder will be paid to Trading Cove Associates, a ioint venture between Sun International and US hotelier Mr Len Wolman, Trading Cove has a seven-year management contract on the resort.

Of the total \$250m investment. Sun International is injecting \$40m into the project. Although that will lift its net borrowings to \$120m, Mr Kerzner said it remained modestly

It was persuaded to invest in the Montville scheme partly by the success of the nearby Foxwoods Resort Casino, where the Mashantucket Pequot Indians were said to be enjoying revenues of \$1hn a year.

Sun International - advised by Bear, Stearns and Donaldson Lufkin & Jenrette Securities - decided to press ahead in spite of moves in Congress to levy corporate income tax on ravenues from casinos on Indian land.

The House Ways and Means Committee has approved the first federal tax on Indian tribes, which if approved would be levied at a rate of 35 per cent. Congressional critics claim the tax exemption gives casinos on reservation land an imfair advantage over state lot-



### Marcopolo watches green light

Brazil's bus maker plans to boost production, writes Angus Foster

isitors to the factory of Marcopolo, the Brazil-ian bus maker, will find clean toilets but no toilet

Production line workers are expected to tidy the tollets and the rest of the factory, in an example of Japanese-style work practices which are common in the developed world but unusual in Latin America. Marcopolo, the continent's

biggest bus manufacturer, started adopting such practices after two senior managers visited Japan in 1986. Today, the factory is full of new ideas and charts designed to improve and map production levels. These types of ideas have

given us excellent results. They all reflect in the quality of the product," says Mr Valter Gomes Pinto, export director. Marcopolo was founded in

1949 in Brazil's most southerly state of Rio Grande do Sul. The area has a strong industrial tradition due to widespread immigration last century from northern Italy. This pedigree allowed the company to weather competition from the industrially more powerful state of São Paulo, where most of Brazil's automotive industry is based.

Marcopolo builds and finishes bus bodies which it assembles on chassis built by Scania, Volvo and Mercedes-Benz. Unlike most of its competitors, it assembles a wide variety of products, from long-distance double deckers to articulated huses for city use. The company has right-hand drive models which it exports to former British colonies such as Guyana and Caribbean islands such as Jamaica.

The company's recent sales record is as bumpy as Brazil's economic performance. Sales slumped in 1990 following a government anti-inflation plan which triggered a recession, but picked up in the next two year will continue to be

Marcopolo Annual bus production (1000)

years, before political uncerdragged down by the governtainty led to a 25 per cent fall in production throughout the ment's economic policies. The Real bas been allowed to appreciate against the dollar. However, with growing optihurting export competitive-

mism about the economy folness, and credit is being kept lowing the introduction of an tight to damp down inflation. inflation-beating currency, the The one positive point is the election next year, when there should be an increase is Real, last year, Marcopolo is forecasting a jump in produc-tion to 4,500 units this year, vehicle sales ahead of the elecfrom 3,828 units last year. tions," he says. Next year sees municipal polling throughout Turnover is forecast to reach R\$220m (US\$230m), compared Brazil and outgoing mayors with R\$207m. If the targets are will be keen to use up their hit, it would be Marcopolo's budgets, buying equipment best performance since 1992. such as buses, trying to elect According to analysts, it may

take time for this improvement to trickle down to shareholdfter years of erratic growth, companies such as Marcopolo are ers. Marcopolo booked a net loss of R\$1.9m last year after being affected by currency well placed if the economy is losses and wage rises. The kept on course. Brazil's bus company is expected to return companies have often delayed to profit this year with fore their investment decisions casts ranging from R\$5mleaving the country's bus fleet R\$12m, giving earnings per 1,000 shares of between R\$7old by international standards, with an average age of 7-8 R\$18. The range of forecasts for "The domestic market is 1996 is narrower, with analysts

pencilling in profits of R\$18mgrowing very quickly after bus fares were increased in June, prompting bus companies to Mr Pedro Zinner at Banco lcatu, whose forecasts are at start buying. But they are the bottom end of the range for renewing their fleets, not both years, says results for this expanding," says Mr Gomes

nent's finances stretched, there is little immediate chance of Brazil investing in its overstretched urban infrastructure. With metro and overland train projects stalled, because financing has run out, commuters will continue to push and shove to get on to Marcopolo's buses.

While first-half sales to the domestic market reached R\$85.9m, compared with R\$128.4m for the whole of 1994, first-half exports managed only R\$24.4m, less than a third of 1994 exports of R\$88.3m. Seasonal factors will improve the second-half performance but overall exports are likely to be

in the meantime, Marcopolo is preparing for its next quality challenge and hopes to win the ISO 9000 mark, the international quality standard, next

To the Japanese techniques in place, including just-in-time delivery and feedback from workers, the company has added a system of red, orange and green tags which function like traffic lights to show the performance of each stage of the production process. If a particular process is

going well, it is awarded a green tag with a smiling face. Problems show up across the factory floor with angry red faces. The same system is used to map the emotional state of each worker, says Mr Gomes Pinto.

"Each morning the worker chooses a red, orange or green tag. If he has a problem, his wife is ill for example, the problem is sorted out and someone from the social assistance department can visit her. or he can be sent home," he

After years of flashing lights in the Brazilian economy, Marcopolo is hoping the recent green light of growth will last.

### Harrell named head of Tamla Motown

By Alice Rawsthom

PolyGram, the world's largest music group, has appointed Mr Andre Harrell as president and chief executive of Tamla Motown, as part of its efforts to rejuvenate the famous record abe

Mr Harrell, 35, is one of the music industry's most successful executives. He founded Uptown Entertainment, part of the MCA Music group, in 1986 and has since nurtured a series of successful rap and soul artists, including Mary J. Blige, Heavy D and Jodeci.

His appointment is a critical part of PolyGram's efforts to revitalise Tamla Motown, bought from Boston Ventures, a private investment group, for \$301m two years ago.

Mr Harrell is replacing Mr Jheryl Busby, 48, who was chief executive of Motown at the time of the acquisition. Mr Clarence Avant remains chairman of Motown Mr Berry Gordy, the label's founder, will continue as chairman emeritus. Mr Harrell will report directly to Mr Alain Levy.

chairman of PolyGram.

Tamla Motown, founded in 1959, is still best known for the artists who emerged in the 1960s and 1970s, such as Diana Ross, Stevie Wonder and The The Motown back catalogue

is one of the most valuable in the music industry and Motown has developed a few successful new acts, notably Boyz II Men, who have sold more than 10m copies of their latest album.

However, it has lost market share to the new generation of African American record labels that have tapped into new genres of music, such as rap and hip bop.

Mr Harrell began his music career at 15 by forming a rap dno. Dr Jekyll & Mr Hyde, with school friend. He studied for a degree in business management before joining Rush Communications, an entertainment company run by Mr Russell Simmons, another African American music executive.

Mr Simmons's RAL/Def Jam record label was bought by PolyGram for \$33m last year. Three years later he was hired by MCA to launch Uptown.

### El Paso Electric plans capital reorganisation

El Paso Electric has filed a would use proceeds from an emerge from bankruptcy during the first quarter of 1996, Reuter reports from El Paso. El Paso's capital structure will consist of \$1.2bn in senior secured debt, including \$200m of polintion control bonds.

common shares. The plan includes two alternatives for emerging from bankruptcy, the company said.

\$100m of preferred stock and

Under the first, the company

plan of reorganisation to underwritten public offering of reduce its total debt by about mortgage bonds to repay the \$800m, allowing the US utility claims of existing secured secured creditors in full.

If market conditions would not permit an offering, the company would distribute new senior secured debt to existing secured creditors in the amount of the claims.

Unsecured creditors would receive about \$150m in cash, \$100m of preferred stock and 85 per cent of the reorganised company's common stock.

All of these securities have been sold. This announcement appears as a matter of record only:

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Aran E

£280m

First Choice warns but plans buys

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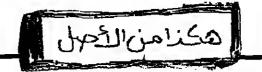
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Sex for Carrie

Anglovaa] TRANSPORT

Miletania (1)



Deal and restructuring costs will cut £95m from 1994-95 results

# Lucas pays Washington \$88m payroll services

Midlands Correspondent

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21

14

Industries, automotive and aerospace systems maker, is to pay the US government \$88m to settle a dispute which has led to it being barred from taking any new defence contracts with the Pentagon. It will be taken as an exceptional item of £55m in its 1994-95 accounts.

The group is also making a provision of £40m to cover the restructuring of Lucas Western Geared Systems, the subsidiary involved in the Pentagon dispute, and its eventual disposal. Before the provisions pre-tax

profits for the year to July 31, ernment hinged on the testing to be announced next Monday, procedures for Lucas Western were expected to be between £130m and £135m The settlement had been

awaited for some time but the cost is greater than expected. A year ago Lucas made provisions of £87.6m for restructuring and US contract claims, without specifying the break-down. Last March it said it had no intention of making any more provisions.

Lucas said yesterday there had been strong growth in continuing business and, exceptionals apart, profits would be in line with expectations. The dispute with the US gov-

gearboxes supplied for US Navy F/A-18 aircraft. Yesterday Lucas said the equipment had exceeded performance requirements.

Last January it paid the US government a fine of \$18.5m (£11.9m), a first call on the 287.6m provision in the 1993-94 accounts.

"The financial effect is out of all proportion to the issues involved but we believe this was the best settlement available," said Mr George Simpson. chief executive. Lucas Western accounts for less than 2 per cent of group sales.



George Simpson: best settlement available

**ECC** buys

interests in

Construction Correspondent

Redland, oue of Britein's

biggest bullding material

groups, yesterday announced the sale of two raw material

businesses supplying the

Redland said the US and UK

businesses were uo longer

regarded as central to its core

English China Clay is buy-

ing for \$35m, plus provision of

working capital of \$4m, the

calcium carbonates interests

paper and paint industries.

Maryland

By Andrew Taylor,

operations.

Redland

### Aran Energy valued at £280m against £161m offer

By Tim Burt

Aran Energy, the Irish oil exploration company fighting a £161m (\$250m) bid by US rival Atlantic Richfield Corp (Arco), will today publish an independent valuation suggesting it is worth almost £280m.

The valuation, prepared by SSI, the US oil consultants, is expected to conclude the Dublin-based group could be worth at least £1 a share, against the 61.4p offered by Arco.

SSI was yesterday said to have drawn on new information provided by Aran's oil pro-

warns but

plans buys

First Choice, the UK's third

largest tour operator, yester-

day launched a £44.1m (\$68m)

rights issue and announced

three acquisitions after warn-

ing that the peak August season "fell off a cliff."

than £1m" for the year to the end of October, the group fore-

cast. This compares with

£16.3m previously and City

forecasts of about £20m. The

shares shed 18p to close at

Thomas Cook, the biggest

shareholder with a 21 per cent

stake, will not be taking up

holding of about 14 per cent.

Profits would fall to "no less

By David Blackwell

duction partners in reaching the valuation, which has been endorsed by its financial advisers. Morgan Grenfell, Morgan Stanley and the Investment Bank of Ireland.

Aran also hinted the report would show the value of the company's 22m barrel share in the Schiehallion field, off the Shetland Islands, was larger than thought.

Areo refused to comment in

detail until it had studied the valuation report. But the company said reports of a £1-ashare valuation were fanciful and warned it would consider

First Choice | Sales growth lifts

eervices group, yesterday

reported a 38 per cent rise in

annual pre-tax profits from

£4,46m to £6,16m (\$9.5m),

The group, which specialises

in providing engineering ser-

vices for the automotive indus-

try, increased turnover 36 per cent to £85.9m (£62.9m), fuelled

by strong arganic growth in its core business.

Sales from the automotive

Mr Christopher Ross, chief

First Choice will use the proceeds both to strengthen its Blue Mountain for \$22.5m

writes Christopher Price.

increasing its offer only if there were some hard figures to support Aran's claims Arco said Aran's forecasts would need to be corroborated

by British Petroleum, which first discovered the Schiehal-lion field. Some analysts questioned Aran's expectations. They must be including a

significant amount of value for exploration potential, which most analysts would regard with some suspicion," said one. Another said that at £1 a share, more than 40p of Aran's untapped reserves.

main drivers of the automotive

business were legislatiou affecting vehicle design and

production, such as tighter

emission controls, and demand

from manufacturers for ever

the first half of the year as

provides services to the aero-

space and power industries.

This trend was being seen in

The design division, which

greater vehicle refinements.

of Genstar Stone Prodocts, a Redland subsidiary in Maryland. Redland previously had been negotiating the sale of the Maryland business to Mineral Technologies of the US but

this deal bad felleu through. Seperately, the Goonvean & Rostowrack China Clay company has paid £8.2m for Redland's chins clay operations near St Anstell, Cornwall, The operation produces about

120,000 tonnes a year. Mr Paul Hewitt, finance director, said Redland's share of the china clay market was

### was affected by tough trading division rose 89 per cent to Bradstock buy £58.6m, which included the conditions and turnover fell 14 Bradstock, the insurance brofirst full-year contribution, per ceut to £27.3m (£31.9m). Mr worth £20m, from transmission Ross said that the outlook for the division remained

ker, is paying £2.5m to acquire Cullis Raggett another broker, as part of a link-up with a Malaysian financial services

Cullis Raggett is a broking subsidiary of an affillate of Malaysia's Hong Leong Group. which has interests in insurance, banking, stockbroking and industrial businesses. Bradstock bas also signed a joint venture agreement with Hong Leong Credit part of the Hong Leong Group, to develop insurance and reinsurance broking business in east Asia.

As part of the deal, Hong Leong Credit will become a 4.7 per cent shareholder in an eniarged Bradstock group, becoming the Londou-based broker's third largest share-

### Trade Indemnity

Trade Indemnity, the credit insurance company, hes opened its first continental European office, in Milan, in an effort to expand its international client base and reduce the risk of insuring exports to

Italy. In its 1994 annual report. Trade Indemnity said that "the worst claims experience" for export clients arose in Italy, France and Spain.

.It also plans to co-operate with Italy's main domestic credit insurance company in assessing risks for UK and Italian clients.

Two more continental European offices are planned, in France and Germany, to add to hranches in Australie, New Zealand and Canada.

LBMS joins Nasdaq Learmonth & Burchett Management Systems is to make a US public offering of at least 5m new and existing ordinary shares on Nasdaq. The offer will be priced in the week

beginning November 13. The primary offering will be of at least 2.5m new ordinary shares. The secondary offering will comprise the sale of 1.5m shares by Mr Rainer Burchett, chairman, and Im shares by Mr Roger Learmonth, non-executive director. Both will retain substantial shareholdings in the company.

Polypipe purchase

Polypipe, the huilding materials manufecturer, bas bought Sud Onest Plastiques for a maximum of FFr16.3m. The initial payment is FFr14.8m cash, with a further payment of up to FFr1.5m subject to the settlement of certain amounts

# Ceridian buys from NatWest

Banking Editor

Nstional Westminster Bank is selling part of its computer services subsidiary Centre-file in a further effort to concentrate capital on a smaller range of

NatWest will sell the Personnel and Payroll Services (P&PS) division to Ceridian Corporation of Minneapolis for 233.1m (\$51m) cash. It also intends to sell other husinesses which are part of the Centrefile subsidiary, including the K3 Group, a supplier of husiness systems to building societies and insurance companies. NetWest said that most of

be transferred with their businesses, although there were likely to be some job losses. P&PS has about 5 per cent of the UK market in payroll services for companies. Ceridian, which is likely to have a 1995 turnover of £800m,

was formed in the restructuring of Control Data Corporatiou in 1992. Its subsidiaries include Ceridian Employment Services and Computing Devices International. Mr Lawrence Perlamna, Ceri-

dian's chairman and chief executive, eaid this was its first purchase of a human resources company outside the US.

### Melrose turns in £5.65m

By Jane Martinson

Full-year pre-tax profits at Melrose Energy, the oil and gas exploration group, jnmped from £1.21m to £5.65m (\$8.75m). The company was formed in

March 1995 after Crossroads Oil bought the 55.6 per cent of Melrose it did not already own. Sales almost trebled to £6.65m (£1.71m) in the year to June 30 while operating profits rose to £5.68m (£1.2m).

# LEX COMMENT

In the last two years, the new management at First Choice Holidays has rebranded the husiness, softened its seasonal bias and cut back costs all sound moves. But e fundamental problem remains. The tour operator is still highly vulnerable to sales during a six-week period. And during the key month of August, competitive pressure, and therefore discounting, cost the company some \$15m in profits. The result will be a small loss before one-off

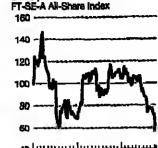
recent ecquisitions in Canada, First Choice would have lost £8m more. The management claims that next year will be different. It is cutting capacity by 8 per cent, and other market lesders promise similar reductions. This is vital if the industry is to achieve the 8 per ceut price rises it is imposing on 1996 holidays to

items for the current year,

versus expected profits of up

to £20m. Had it not been for

claw back rising costs. Yet First Cho)ce is also expecting further increases in market share, suggesting the intense competition of the past two years is far from



If investors take up their rights, they will in effect be paying 17p for every 100p of First Choice revenues, implying considerable potential

However, Thomas Cook will not help. Having turned down lts rights, it is likely to sell its 14 per cent stake when conditions improve, which would depress the share price. Meanwhile, another bad summer could meau another rights issue. But, for those willing to take e gamble, the rewards probably outweigh

### Chiroscience near to drug deal

Chiroscieuce, the biotechnology company, is in late-stage talks for an agreement with a "major pharmsceutical company" to develop and market levoverapamil, e car-

diovascular drug, writes Motoko Rich. The announcement eccompanied Chiroscience's interim results showing pre-tax losses widening from £3.75m to £5.52m

Swedish pharmaceutical group, to develop and commercialise levobupivacaine, Chiroscience's long-acting anaesthetic.

The group also derived increased reveuues from derketoprofen, an anti-inflammatory pain treatment registered to Men-

(\$8.55m). It also followed the agreement arini, Italy's largest domestic drugs comsigned last month with Pharmacia, the pany.

Spending on research and development rose to £5.55m (£3.66m) to fund clinical trials, particularly on levobupivacaine. Spending also rose to fund a rise in the sverage number of employees during the half, from 120 to 163.

									<ul> <li>Dividends -</li> </ul>		
	Turno	ner (12m)		-tack R (Earl)	27	(p)	Current payment (p)	Date of payment	Corresponding dividend	Total for year	Total test year
Ash & Lacy 5 mins to June 30	34.5	(30.5)	2.57	[2.02]	7.B4	(5.2 )	28†	Nov 1S	2.5		5.4
Betacore Yr to June 30	15,3	(13.5)	0.433	(0.203 <b>Y</b> )	0,6	(0.3)	nij		rál	nii	ηū
Bilton 6 mths to June 30	5.7B	(5.88)	9.18	(9.06)	7,2	(7.1)	2.89	Dec 1	2.89		9.93
Brightstone 6 mins to June 30	0.570	(0.330)	0.145	(0.106)	1.53	(1.07)	1.25	Oct 27	1		2.8
British Dredging 6 mins to June 30	19	(15.7)	0.685	(D.B58 )	2.62	(3.28)	2.6	Dec 11	2.6		5.6
Chiroscience 6 miles to Aug 31	2.11	(0.757)	5.52L	(3.75L.)	B.1L	(5.5L)		-			
DCS Yr to June 30	8.60	(6.38)	0.61	(0.43¥)	5.02	14.32	1†	Dec 4	0.5	77	0.5
GPA * Otr to June 30	244	(392)	148	(154 )	-	(-)				•	
Greenware	5.24	(4.52 )	0.996	(0.873 )	D.42	(0.35)	0.19	Nov 24	0.16		0.35
Groupe Chez Gérard Yr to June 25	13.1	(10,2 )	2.33	(1.67)	B.41	(7.28)	1.65	Nov 20		2.4	-
Metrose Buerny Yr to June 30	6.65	(1.71 )	5.65	n.21 )	4.57	(1.62)	0.32	Dec 12	0.2	0.48	0.2
Moss Bros 6 mths to July 29	38,1	(30,1)	3.21	(1.92 )	12.63	(7.6 )	5	Nov 7	3		12
Danie Stores 5 mits to July 31	24.6	(19.5 )	2.61	(3.72)	2.42	(4.64)					
Ricardo	85,9	(62.9)	6.16♣	(4.46 )	9†	(B.4 )	4.3	Nov 30	4	6.3	
Statio 6 milities to July 29	77.9	(63.3 )	0.561	(0.504)	1.86	(1,58")					4.667*

Dividends shown not, Earnings shown basic. Figures in brackets are for corresponding period. Their rental Income. Valter exceptional credit. After exceptional charge, †On Increased capital. "Equivalent after allowing for scrip lesse, + US currency.

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We're proud of it. It lists the 124 leading companies who take an active part in IMD - our Partners and Business Associates. This unique relationship produces an asmosis that puts us at the forefront of international executive development: together, we identify the current needs of business, carry out research projects, and design specific material for our programs. There are 21 public programs altogether, ranging in length from three days to ten weeks, and covering the needs of executives at every stage in their career. And there's no bias towards any one business system or culture: faculty and participants come from more than 100 countries making IMD overall the most international business school in the world.



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strategy, and the ability to implement those priorities

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eventually take on.

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### balance sheet and to finance three acquisitions. The main one is Skibound, which is the leading operator of school and group ski holidays and is costing a maximum of £26m. It is also acquiring JWT Hol-

idays for 125.3m, giving it market leadership in the Republic of Ireland, and the outstanding interest in Fiesta West for C\$18m.

Cardiff based textile and industrial products group, is to buy Blue Mountain Industries, the US specialist industrial thread manufacturer, for \$22.5m, writes Jane Martinson.

manufacturer FFD.

share and will end up with a holding of about 14 per cent. Hicking Pentecost buys

The deal reunites Blue Mountain with Barbour Camp ufacturer bought by Hicking source of concern".

Hicking Pentecoet, the Pentecost for £5.83m in May

"unexciting".

Ricardo to £6.16m

Ricardo, the engineering executive, said that the two

well.

Blne Mountain used to be part of the Barbour group and still uses the Barbour name and logo. Mr Tudor Davies, Hicking's chief executive, said the two companies had begun to compete in the Chinese marbell, the specialist thread man- ket, which was "becoming a

# nd printed for the above construction of the c

Final dividend declaration

22 September 1995 in which it was reported that final dividends would be declared on 2 October 1995.

ordinary dividend No. 11 of 106 cents (88 cents) per share, making a total for the year of 148 cents (123 cents) per share, have today been declared payable to holders of ordinary and N ordinary shares, safient dates related to the declaration being as follows:

Last day to register for dividends and for change of address or dividend instructions

Friday, 27 October

London

The dividends are paid subject to conditions which can be inspected at the registered office or the office of the London secretaries of the Company.

Registered office Anglovaal House 56 Main Street

London secretaries Angiovael Trustees Limited 33 Davies Street London W1Y 1FN

Friday, 20 October

Saturday, 21 to

### **Anglovaal Limited**

for the year ended 30 June 1995 Shareholders are referred to the Company's results announcement published on

Final dividend declaration Notice is hereby given that final ordinary dividend No. 99 of 106 cents (1994: 88 cents) per share, making a total for the year of 148 cents (123 cents) per share and final N

Period during which transfer books and registers of members will be closed (both days inclusive) to determine which members qualify for the dividends

Currency conversion date for Sterling payments to shareholders paid from Monday, 30 October

Dividend warrants posted/dividends

Friday, 17 November electronically transferred

By order of the board R P Meier Company Secretary

2001 Johannesburg

2 October 1995 THE CONTRACT PROPERTY AND ADDRESS OF THE PROPERTY OF THE PROPE

Gereniusci, inc. Garantect Inc. Genericach. Inc. Genentech, Inc. Genentech, Inc. 460 Point San Bruno Boulevard South San Francisco, CA 94080

**OCTOBER 3, 1995** 

### TO THE HOLDERS OF 5% CONVERTIBLE SUBORDINATED DEBENTURES **DUE 2002 OF GENENTECH, INC.:**

The following constitutes notice to the holders of the U.S. \$150,000,000 5% Convertible Subordinated Debentures Due 2002 (the "Debentures") of Genentech, Inc., a Delaware corporation, ("Genentech"), as required by Section 12.06 of the Indenture dated as of March 27, 1987 between Genentech and The Bank of New York, as Trustee, pursuant to which the Debentures were issued, with respect to the date upon which the merger of HLR (U.S.) II, Inc. ("HLR"), 2 wholly owned subsidiary of Roche Holdings, Inc. ("Roche"), with and into Genentech is expected to be consummated (the "Effective Date").

Under the terms of the Merger Agreement dated as of May 23, 1995 between Genentech, Roche and HLR, as amended, among other things,

(i) HLR will be merged (the "Merger") with and into Genentech, with Genentech being the surviving

(ii) the Certificate of Incorporation of Genentech will be amended to authorize the issuance by Genentech of Callable Putable Common Stock, par value \$.02 per share (the "Special Common Stock").

(iii) each outstanding share of Genentech's Common Stock, par value \$.02 per share (other than shares of Common Stock held by Roche and its affiliates ) will be converted into one share of Special Common Stock, (iv) each outstanding share of Common Stock held by

Roche will be cancelled, and (v) the outstanding common stock of HLR will be converted into shares of Common Stock representing the same number of shares of Common Stock held by Roche immediately prior to the Merger.

It is currently expected that the Effective Date will occur promptly following approval of the Merger by Genentech's stockholders. A Special Meeting of Genentech's Stockholders has been called for October 25, 1995 to approve the Merger.

Since Genentech cannot predict when all conditions to the Merger will be satisfied or waived, including, among other things, approval by Genentech's stockholders, the Effective Date cannot be predicted with certainty. If the Merger becomes effective, you may convert the Debentures into the number of shares of Special Common Stock equal to the number of shares of Common Stock you would have received upon conversion prior to the Merger.

Holders of Debentures who have questions regarding the Merger may obtain a copy of the Proxy Statement/Prospectus relating to the Merger, without charge, by writing to Genentech, Inc., 460 Point San Bruno Boulevard, South San Francisco, California 94080, Attention: Investor Relations.

### INTERNATIONAL PEOPLE

### Schmidt wastes no time at ISS



Wide ranging management changes have followed the arrival of Waldemar Schmidt as chief executive of ISS-International Service Systems on September 28. He succeeds Poul

Andreassen, who built up ISS from a small Danish domestic company into the world's largest cleaning business.

Martin O'Halloran (above), 42, managing director of ISS UK since 1989, is going to New York as president and ceo of ISS Inc. the third ceo in New York in less than two years. He replaces Dennis Spina, an American brought in last year, who has resigned from the company.

Ken Pepper, 48, operations director and managing director of international operations et ISS Europe since 1989, takes over in the UK.

Schmidt is meanwhile joined on the parent company's management board by Joern Andersen, who becomes finance manager with effect from November, and Sven Ipsen, of ISS Scandinavia. Theo Dilissen, 42, will take over Schmidt's former position as managing director of ISS Europe when the regional offices are relocated from London to Brussels, Hilary

ON THE MOVE

Dominique Chauvin

automative products

International, is rejoining

Varity Corporation as chief

executive of Kelsey-Hayes, its

subsidiary. He succeeds Edward J. Gulda

on November 1. Chauvin was

Ferguson until Varity cold it to

chief executive of Massey

Agco last year.
■ Carl Eric Stalberg, chief

financial officer of Swedbank,

to become president of JM Byggnads Och Fastighets, a

Swedish construction

new post in early 1996.

the big Nordic bank, is leaving

company. Stalberg takes up his

■ Nicholas L. Trivisonno, 48, former head of strategic

planning at GTE Corporation,

takes over from Edwin A.

Corporation, Bescherer is

information group.

Bescherer as chief financial

officer of Dun & Bradstreet

of Assurances Générales de

France, the state-owned

insurer, has replaced Jean

Disney's supervisory board.

refiring after 40 years with the

ancourt-Galignani, chairman

Taittinger as chairman of Euro

president of Agco

### Simons bows out

Paul Simons, chairman of Woolworths, Australia's largest food retailer, is finally bowing out. Simons, one of Australia's most respected businessmen, joined Woolworths in 1954, and rose to become joint general manager in 1974. He resigned in 1978, and for the next eight years ran the Franklins chain of discount food stores. However, he returned to Woolworths as chairman in 1987, subsequently seeing it through a stockmarket flotation.

He had planned to retire earlier but Woolworth's management succession was disrupted when Harry Watts, Woolworth's managing director and Simons' successor, died unexpectedly of e heart attack in 1993. Reg Clairs, who took over Watts' role, has increasingly fronted the running of the business, and moved up to become chief executive a year ago. Simons plans to retire after the company's annual meeting in November. Nikki Tait

### Changes at Paribas

Taittinger remains on the

of programmes at France's

RTL radio network, is also

board and Phillipe Labro, head

joining the supervisory board.

Jon Hartley, former head of

Lease, replaces Murray Bolton

as chief executive of Brierley

Investments' New Zealand

Jean-Pierre Halbron, 59, a

former finance director of

Total, has replaced André

chief executive of Alcatel

Aisthom's Electro Banque

executive of Compagnie

1982 and became finance

subsidiary, Halbron was chief

Financière between 1974 and

director of Rhône-Poulenc in

for CdF Chimie, Total and

Wasserstein Perella. He was

appointed Alcatel Alsthom's

director strategy and finance

president of Delco Electronics

Asia/Pacific, has returned to the US as chief operating

officer of Delco Electronics,

General Motors' electronic

components arm. William C.

Delco for 20 years, replaces

headquarters in Singapore.

him at Delco's regional

Spelman, who has worked for

■ Thomas J. Sheehan.

1983. Since then he has worked

Wettstein as chairman and

activities.

in July.

development capital at Lend

Patrick Stevenson, a 50-year-old Frenchman who has been responsible for the growth of Paribas Capital Markets, has been appointed senior adviser to Banque Paribas' executive committee and chairman of Paribas Europe. Alec de Lézardière, head of equity and fixed income products, takes over as head of the capital markets department. Pierre Martinaud, head of business development, becomes head of human resources and is replaced

Francois Maire has been

appointed chairman of ATT

Christopher Roberts, Credit

Suisse's North American head,

joins Credit Suisse's executive

board on January 1. He will

commercial banking in North

and Latin America from Beat

Fenner who will take charge of

Central Switzerland. Manfred

Adami is resigning from the

■ Patrick Fincker, previously

with Crédit Lyonnals in Paris

Deutsche Bank executive, are

Lyonnais' German subsidiary.

Fincker will be responsible for

trading and Kremer will take

charge of real estate customer

succeeds Helge Alten as head

which is responsible for Volvo

America. Alten has moved to

Volvo Cars of North America.

Theo de Raad, 50, and Jan

Piet Fokker, 53, have been

chairman of SHV Makro, the

consumer wholesaling arm of

Post services of the services

named chairman and vice

the privately-owned Dutch

sales outside Europe and North

of Volvo Car International,

joining BfG Bank, Crédit .

executive board for health

and Michael Kremer, a

Hans-Olov Olsson, 54,

assume responsibility for

business in Eastern and

Louvel, head of commodities finance. Nestlé's French moves Nestlé has promoted Peter Bleckburn (left), chairman and chief executive of its UK operations, to head its French business from next April.

by Luqman Arnold, head of investment

banking. Jean-Benoit Henriet, head of

human resources, takes over the securities

services department and Philippe Blavier,

head of the bank's north American

operations, replaces Michel Barret as head

of corporate banking. Barret takes charge

take charge of the Italian subsidiary on the retirement of Giancarlo Salina. Blackburn's role in the UK will be filled by David Harris, managing director of Nestle's Rowntree confec-

He replaces Yves

Barbieux, who will

tionery division in York. Blackburn was chairman of Rowntree Mackintosh's UK business when Nestlé launched a hostile and ultimately successful bid for it in 1988. He fully expected to be fired once the Swiss group took control, he said later. Instead, he was put in charge first of Rowntree and then Nestle's global confectionery strategy group before becoming UK chairman and ceo in 1991. Roderick Oram

> group. Both are members of SHV Makro's executive board and take up their appointments on January 1

1996 when Folkert Schukken. Ruth Markland has been appointed the first managing partner of the Asian offices of Freshfields, e London law firm. Markland, a partner since 1983, takes over from Mark Freeman as partner in charge of the Hong Kong office January 1

■ Laurence Crowley takes over from Margaret Downes as deputy governor of the Bank of

■ Paolo Vigitello has been appointed general manager of the Valentino clothing group. He was previously a senior manager at GFT (Gemina

### International appointments

Please fax announcements of new appointments and retirements to +44 171 873 3926, marked for International People. Set fax to 'fine'.

Decision on aid annulled



Commission decision clearing the French government of granting state EUROPEAN aid to Securioffice security

company, has been annulled by the European Court of First Instance. The court ruled the decision was inadequately reasoned. Therefore it could not support the Commission's con-

Sécuripost was formed in 1987 by a commercial subsidiary of the state-owned French post office to provide a secure means of transporting money and other protection services. The post office seconded over 200 officials to the new company, and between 1987 and 1989 it advanced to it, through a subsidiary, sums totalling

some Ecu8m. In 1989 a group of French companies complained to the Commission that these measures constituted unnotified and unlawful state aid

Following a 29-month investigation, the Commission adopted a decision rejecting the complaint. The companies brought an action before the Court of Justice, but it was dropped when the Commission withdrew its decision. The Commission registered the measures taken by the French government as unnotified aids in early 1993, but in December that year it adopted a second decision again rejecting the companiss' complaints, and held there had been no grant of

The companies challenged this decision before the Court of First Instance alleging, among other things, infringe-ment of the right to an adequate statement of reasons and manifest error of assessment,

The court said that the state ment of reasons required under the treaty must disclose in e clear and unequivocal fashion the reasoning followed by the decision-making authority. The adequacy of the reasoning must also be assessed with regard not only to its wording but also to its context and to all the legal rules covering the matter in question.

The court said that the long time taken to adopt the con-

A. European tested decision, the correspondence which had taken place between the Commission and the parties, the adoption of the initial decision by the Commission and the registration of the measures as unnotified aids post, a post were all relevant to the context of the contested decision.

The court then examined the Commission's reasons. It found some of the reasoning inadequate in four areas: the secondment of staff; the favourable terms on which post office memises had been made available: the fuel and vehicle maintenance cost incurred by Securipost; and loans made by the post office to Securipost.

The court said the Commission was obliged to give a reasoned answer to each of the objections raised in the complaint. Since it had not the contested decision was vitiated in each respect.

On the question of manifest error of assessment, the court noted the applicants' submission that the prices charged by Sécuripost to the post office were higher than those normally charged in that sector.

The Commission had sought to meet that objection by means of a comparison with a contract awarded to Sécuripost for transporting money for the Casino shops chain. However. the court found that evidence madequate because it dealt with only one year, 1993. The court therefore raised the issue of a lack of reasons on this point, and concluded that the contested decision was madequately reasoned.

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The court concluded that it was not open to the Commission to rely on the alleged filmsiness of evidence put forward by the complainants in order to justify the inadequacy of its reasons for e decision. It said the Commission had at its disposal more effective means of gathering the information necessary for a detailed, impartial investigation than complainants, and thet the Commission's obligation to state reasons for its decisions may in certain circumstances require an exchange of views and arguments with the complainant.

T-95/94: Sytraval and Brink's France v Commission, CFI 4CH, September 28 1995. BRICK COURT CHAMBERS,

### Crédit Lyonnais accounts. 1995 first half-year.

### **Net profit** Group share: FF 36 million. Consolidated net profit: FF 667 million.

The Board of Directors of Crédit Lyonnais, under the Chairmanship of Mr Jean Peyrelevade, has examined the accounts

The results for the first half-year no longer include results from assets subject to ring-fencing. Therefore, they have been restated to make them comparable to the 1995 figures. They are referred to as: first half-year of 1994".

### Banking income.

Total consolidated banking income for the first half-year 1995 amounted to FF 23.3 hillion, down 5.8% compared to the total banking income for the first half-year of 1994. Indeed after the restauement the net cost of financing the ring-fenced assets is higher in the first half-year of 1994. Excluding this item, total banking income from current operations fell by nearly 7%.

This fall reflects a climate which is still difficult for commercial banking in France and Europe, which is affecting both the volume of activity, margins on assets and liabilities, and commission income. The latter fell by nearly 12% coropared to the first half-year of 1994\*, mainly because of declining activity on the equity markets and a fall in commissions on securides and fee income from asset management in France.

Operating expenses.

Operating expenses and depreciation fell by 1.6% compared to the first half-year 1994. This fall was mainly due to the reduction in average staff levels at Crédit Lyonnais in France by nearly 4%.

Operating income before provisions. Operating income before provisions amounted to FF 4.5 billion.

down 20.1% compared to the first half-year of 1994".

This decline corresponds to a fall in French commercial banking activities which provide nearly two-thirds of Group operating

Operating provisions net of recovery.

Operating provisions net of recovery fell to FF 3.5 billion. reflecting an improvement in general risk. The cover ratio for country risks remains unchanged at 52%. Tax charge.

The tax charge was FF 683 million. Half of the earnings of companies accounted for under the equity method came from the results of the life insurance subsidiary of the Group.

Consolidated net profit. The consolidated net profit (before provision for payment to the State) was FF 667 million.

Group share in net profit.

After provision for payment to the State of FF 18 million, and deduction of minority interests, the Group share in oer profit for the half-year was FF 36 millioo.

Group equity and solvency.

Group equity, including minority interests and the reserve for general banking risks amounted to FF 45.656 billion.

Crédit Lyonnais Group's solvency ratio was 8.5% at Juoe 30, 1995, and tier one equity represented 4.5% at that date, which is a slight improvement compared to December 31, 1994, chanks to a control of weighted assets.

### Outlook.

The Board recognized the improvement to the froup's financial situation, which by returning to breakeven confirms that the crisis period that the bank has been through has ended. Vevertheless, these results show that the situation is till frugite, especially in an unfavourable banking dimate which underlines the necessity for continuing the programs undertaken to restore the profitability of



**CREDIT LYONNAIS GROUP** 

# CANON INC.

Advise has been received from Tokya that the Board of Directors has declared a payment of DNOBNO of his 6.25 per stone for the sax months period unded 30th June 1992. Hoteless of EUROPEAN DEPOSTART RECEPTS TO BEARER (SAME DEN'S which presented the which has been some of the shorter regressment of their stone 1997; should present Councer to No. 97 on the office of HELSAMIEL SAME LID, 10 REFT HAZE, LINDON EXAMIEL SAME LID, to REFT HAZE, SAME LID, SA Hodden of BANES DEPOSIONS RECEIPS DIAME BORY, wishing in claim this divided in respect of the shares represented by their short BOR's should present Coupon No. 46 or the office of HILL SAMURE BANK (DT.) IN FLET PLACE LICHDON ECAN 78H where Balling from or HILL SAMURE BANK (DT.) IN FLET PLACE LICHDON ECAN 78H where Balling from one anxietals OR.

Jopen and the country concerned.
Some ECR/IDST tolders resident in the Republic
of Yorks will receive payment under deduction
of Widtholding Tax of the reduced rate of 12%
and restricts of Zemblis without any deduction

subject to the provision or a resource of con-cion chorus.

Altertion is drown to the fact that the above resultanted concessions relating to progression withholding Tax apply safe to coupon presented for payment within 7 meets of the record right. Thereafter the will be deducted of the full rate of 20% and it will be the responsibility of the context to claim from the temporaribility of the context to claim from the temporaribility of the context to claim from the temporaribility of the context to claim from the temporaribility.

### VERELLEN

Following the adoption of the necessary Resolution at the Extraordinary General Meeting held on Friday 9 June 1995 - and in accordance with the policy decided by the Board of Directors on Monday 18 September 1995 notice is hereby given that:

The existing shares of the company will be exchanged for new shares in the ratio of 1 new share for 1,000 existing ones. Certificates or subshares can be provided to deal with possible fractions.

Shares will be exchanged during the period from Sunday 1 October 1995 up to and including Saturday 8 June 1996, on the last Friday of any month within this period.

Any outstanding shares which have not been processed by the end of the stipulated period will no longer be entitled to participate in this exchange. All such unexchanged shares will only be entitled to redemption at the book value of these shares which was determined to Friday 9 June 1995. Vereilen ov

Managing Director

E Verellen

Energy International N.V. (Incorporated with limited liability in the Netherlands Antilles) NOTICE TO BEARER SHAREHOLDERS The Board of Management of the Fund has approved a proposal to increase the annual investment management fee paid by the Fund. A lener dated 29th September. 1995 was sent to registered shareholders notifying them of this change which will become effective from January. 1996. Copies of the letter are available.

Mercury Asset Management Charmel Islands Ltd. Forum House, Grenville Street. St. Helier. Jersey. Channel Islands (Fax No. +44 534 600 687)

The Board of Management

October, 1995

### BUSINESSES FOR SALE

Appear in the Financial Times on Tuesdays, Fridays and Saturdays.

For further information or to advertise in this section please contact

Lesley Sumner on +44 0171 873 3308

Karl Loynton on +44 0171 873 4780 or



NOTICE OF PAYMENT To the Holders of

### Nafin Finance Trust II

U.S.\$129,880,000 Floating Rate Notes due 1999

For the Interest Period June 30, 1995 to September 29, 1995, the Total Repsyment Amount of the Notes is USD6,230,000 or 15.581219235% of the current outstanding principal amount. Principal in the amount of USD633.66 per USD4,066.82 aggregate principal amount of Notes will be payable on September 29, 1995. After September 29, 1995, interest on the portion of the Notes or repulat will cause to accure. Holders of Bearer Notes must deliver the appropriate interest coupon to a Paying Agent outside of the United States so receive repayment on such Notes.

NAFIN FINANCE TRUST U

By: Bankers Trust Company

Dated: September 27, 1995

ASE INDEX

SIGMA SECURITIES S.A. - MEMBER OF THE ATHENS STOCK EXCHANGE TEL: (301) 3311456 - 3245674 FAX: (301) 3252241 - TELEX 210733 ATRA GR

ATHENS STOCK EXCHANGE 22 - 29 Sept '95

P/E 96e (after tex)

%Chg (Prev. Wk) -1.17 P/E 94 (alter tax) 896.75 EPS GROWTH (%) 954 Yearly Low 782 22 P/CE 95e/94 WEEKLY VOLUME (USD m) 84.51 P/BV 95e/94 %Chg (Prev. Wk) 3.29 Div. Yield (%) 95e/94 1 Y Wk Avg. (USD m)

GDP (USD bri) Per Capita, Income (USD) Inflation Rate (% Y.O.Y. August 95) 6.70 323 12 mostin T-bill (%, and of August issue) 12.1 / 10.0 1-month Athibor 15,38 3.0/3.3 GRO-USS 231.08 A.S.E. Market Capitalisation -29/9/95 (USD bn) 17.27 IPOs & Rights lesues (USD m Jan 95-22 Sep 95) 197.55

GREECE

Lothbury Funding No.1 PLC

> Class Al Notes Mortgage Backed Floating Rate Notes due 2031

a principal represent of 45,691 per 170,036 Note puritant to Clauser (5b) of the Notes on the interest payment date Oth October 1995. The pencipal amount outstanding on 11th October 1995 will therefore be 664, 131 per Note.

LOTHBURY

RMC CAPITAL LIMITED (the "Emper") E78,990,000 Convertible Capital (the "Bonds")
RMC Group p.Le.
("RMC")

Adjustment to Exchange Price NOTICE IS HEREBY GIVEN to holders of the NOTICE SI MEREBY (GIVEN to holders of the Boads 1 the "Bondholders") that the price at which the 24 Eachanguable Redeamable Preference Shares in the Issuer (which are lessable to Bondholders on conversion of the Bonds) are exchangeable has ordinary abrea in RMC (the "Exchange Price") will be adjusted from 8111 pence to 786 pence to accordance with the Articles of Association of the Issuer (the "adjusted Exchange Price"). The adjusted Exchange Price "In RMC the "affective dute of adjustment" in RMC the "affective dute of adjustment" in which is expected as be on or about 9th November, 1995. A Bondholder who delivers his Bond is order to exercise conversion and exchange rights in the period after 14th September, 1995 and before the effective dute of adjustment will be establed to receive such additionary will be establed in conversion and exchange rights to the adjustment BMC Ordinary shares as he would have received had be exercised his conversion and exchange rights to the adjustment will be offered the fifective fast of adjustment will rather the effective fast of adjustment will rather effect to the adjusted Exchange Price.

**CHESHIRE** BUILDING SOCIETY

£10,000,000 Floating Rate Permanent Interest Bearing Shares (PIBS)

or the Interest Period 28th September, 1995 to 28th March, 1996 the PIBS will carry an Interest Rate of 9.24766% per annum. The Interest ount per £1,000 will be £46.11 psyable on the 28th March, 1996.

Lined on The Interpretarial Stock. Exchange of the United Kingdom and the Republic of Ireland List.





### COMMODITIES AND AGRICULTURE

# Industry laments demise of | Sanyati the US Bureau of Mines

By Kenneth Gooding, Mining Correspondent

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The global mining industry was yesterday lamenting the forthcoming closure of the US Bureau of Mines, which during the past 85 years has developed a pool of expertise and access to mineral information that has been unrivalled.

The US Congress has voted to close the bureau. Some of its operations will be transferred to other organisations but important environmental and remediation and pollution prevention research will be ended. Some \$64m has been allocated to cover the cost of closure and about 1,100 jobs will be lost.

This has produced an angry reaction from the industry outside the US. "It is tragic that an organisation with such e long and illustrious history and one that has been so beneficial to the US - and world wide - should be destroyed for short term budgetary reasons," said Mr Philip Crowson, chief economist at RTZ, the world's

is closed if is difficult, if not impossible, to recreate it again when you need it and the US will live to regret this action." At Mining Journal, the inter-

national mining industry's "trade paper," Mr Roger Ellis. the editor, said: "The burean is in the vanguard of the world's mining research establishments and, if it is dismantled or dispersed, we will all be the poorer. Although established to help the US solve its own problems, the bureau has bene-

In a hard-hitting commentary, the Mining Journal sug-sests that the US is struggling to balance the conflicting demands of its voracious appetite for minerals and the need to protect the environment from some of the more perni-cious side effects of mining. processing and fabriceting minerals

"If it had not already been invented, the US government should surely now be consider-

biggest mining company. agency to help reduce the cost "Once an organisation like this (in all its guises) of meeting the country's need for miner. als. And yet, far from applauding its own good fortune in establishing such an organisation fully 85 years ago, the US Congress has decided it should be abolished."

Announcing the closure, the US Interior Department said that some of the bureau's functions, primarily related to health and safety research and materials partnerships, are to be transferred to the US Geological Survey. The Bureau of Land Management will take over Alaska minerals assess-

Bureau's programmes, including important environmental remediation and pollution prevention research, will be ended. Most activities are to close within 90 days of the legislation being enacted."

In theory, President Clinton has the right to veto the Congress's decision, but most observers suggest be is

# Doubts over durability of wood pulp price increases

By Bernard Simon in Toronto

North American and European wood pulp producers have carried out plans to raise list prices to new record levels this week, despite signs of a fragile

market. Analysts said they expect some discounting in coming months, especially in hard-wood pulp used mainly for high-quality printing and busi-

Pulp prices have soared over the past two years since touching a low of \$390 in late 1993. Producers took advantage of frenetic demand last spring to announce an increase in north-

pulp (NBSK), the industry staple, to \$985-1,000 per tonne on October 1 from \$925. Similar increases were announced for

other grades. Some European and North American customers heve greed to the price bikes. But Mr Rodney Young, president of Resource Information Systems, e US consultancy, predicted that the market will remain "pretty weak" for the rest of the year.

Mr Roger Wright, a Londonbased consultant, described the market as "finely balanced". Pulp shipments remain high, with producer inventories virtually unchanged in recent

Scandinavian and North American producers' stocks edged up by only 15,000 tonnes in Angust to 1.27m tonnes. Demand may have been sustained by paper mills' efforts to build up their own inventories ahead of this week's price hike.

Orders for most grades of paper have softened, prompting predictions that paper mills will soon start cutting back their raw material orders. Mr Young described the cur-

■ WHEAT LCE (£ per tonne)

312/2 320/2 322/4 321/4

BARLEY LCE (£ per tonne)

115.00

195,0

107.55 -0.45 107.65 107.50 110.50 -0.40 - 112.50 -0.50

SOYABEAN OIL CET (60,000lbs; cents/lb)

SOYABEAN MEAL CBT (100 tons; S/ton)

FREIGHT (BIFFEX) LCE (\$10/index point)

+15

1850 1860 1820

2,176

-8/6 846/4 633/4 99,706 25,988 -8/0 657/0 646/0 27,300 7,054 -8/6 666/0 654/0 12,532 2,970 -9/2 672/0 656/4 7,213 727 -9/0 678/0 666/0 7,346 631 -8/4 673/0 666/0 7,346 631 -8/4 673/0 666/0 80 3

-0.22 28.88 28.55 3.904 -0.19 26.98 28.62 38,085 -0.17 27.02 26.73 8,498 -0.19 27.12 28.79 9,552 -0.18 27.18 28.95 4,388

-27 192.9 189.0 7,180 4.271 -3.5 198.4 192.2 47,572 7,574 -3.6 197.7 193.5 9,302 1,090 -2.7 199.4 195.3 7,142 1,058 -3.1 199.1 195.5 4,158 512 -2.8 200.5 196.8 3,013 218 -2.8 200.5 196.8 3,013 218

rent fragility as a temporary setbeck. He predicted that demand will pick up again in early 1996, as economic growth accelerates in the US and

### copper mine starts up

The Sanyati copper mine in Zimhebwe operated by UK-based Reunion Mining is up and running and will be producing Grade A copper in the next few weeks, Mr Andrew Woollett the company's chairman bas announced, Reuters

Using low cost (solvent extraction-electrowon technology for leaching the oxide deposit, Reunion's operating costs will be less than 50 cents per pound. Mr Woollett said et the Global Emerging Markets 1995 conference.

Sanyati will be producing et its rated capecity of 5,000 tonnes e year immedietely. with the mine having an eight to 10 year life. Sanyati's reserves are 5.5m

tonnes of ore grading at 1.1 per cent copper. The cost of bringing the mine into operation was \$14m. When the oxide operation is exhensted, Reunion will

exploit sulphide deposits at Sanyati which will add a further 20 years to the project Additional revenues will come from by-product zinc. cobalt and manganese. These

oxide and manganese dioxide at low operating costs. Reunion, which is currently listed in Luxembourg, will be seeking e listing on the London Stock Exchange soon, he told the conference.

provide zinc metal, cobalt

### FT Gold Mines Index

From today the Financiel Times Gold Mines Index will includeprice-earnings ratios for the gold producers. At the same time, South African companies' earnings will be edjusted to make them comparable with gold mining groups elsewhere in the world.

# Foresters who feel themselves being thrown to the wolves

Alison Maitland on the long-term timber supply crisis facing the UK

wenty-five years is a short time in forestry. That is why the UK timber industry is calling for ection now to avert a supply crisis around the year 2020. The amount of bome-grown timber coming on to the mar-ket will be falling by then, after reaching a peak in the second decade of the next cen-

The industry's fear is that the European, North American and New Zealand processing companies which have poured £1.3bn into new mills in the UK over the past decade could find themselves with vast unused capacity and decide to relocate elsewhere in the

"There's going to be a tre-mendous shortfall in timber production. We're going to need substantial tree-planting to keep the mills going, if we want to keep that investment in this country," says Mr Simon Vardon, e senior manager with Fountain Forestry, which handles 160,000 hectares in the UK and US for privete and institutional clients.

The forestry industry is urging Mr Kenneth Clarke, the UK chancellor, to provide more favourable tax and investment treatment in next montb's Budget to encourage large scale new planting.

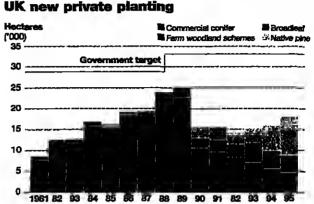
The number of commercial conifers planted each year has plunged since Mr Nigel Lawson, the then chancellor, abolished generous tax incentives in 1988. The move followed a public outcry et a system that allowed the wealthy to dodge tax while creating swathes of pine forest that many saw as an environmental disaster.

As e result, however, private planting of conifers for timber fell from about 23,000 hectares in 1989 to just over 2,500 bectares in the year to March 1995

(see chart). It takes et least 35-40 years for a conifer to reach maturity. The Forestry Commission. which manages the country's Ireland and Portugal in the 1.Im hectares of public woodnorthern hemisphere have fasland, says annual felling of 8m ter conifer growth. tonnes of timber now should The projected surge in supreach 12.5m by 2010 as the forply in the next 15 years has ests planted after the second encouraged hefty investment

world war reach maturity. Arguing from a situation of plenty is difficult. Mr Peter Johnson, chief executive of Tilhill Economic Forestry, which manages 150,000 hectares, or 12 per cent of privately held forests in the UK, says: "There are no votes in forestry for the government. Nothing's going to happen for 20 years. So they've thrown the industry to

such as Repola and Kymmene of Finland, which are merging, and Noranda, the Canadian resources group. This has given the UK e competitive edge which pushed up exports to £2.3bn last year.



the wolves.

The gains from forestry expansion would be considereble for the UK trade balance. Timber is the third highest import after cars and food. Wood imports cost £6.4bn last year, leeving e £4.2bn trade

The country produces only about 12 per cent of its timber needs. This proportion could be doubled, according to the Forestry Industry Committee of Great Britain, which represents the timber supply chain from nurseries to newsprint makers. Only 10 per cent of Britain is planted with trees, but its mild, wet climate is ideal for production. Only

met, says the industry. Current plantings fall well short of the government's tar-

get of 33,000 hectares e year.

Last year, when the govern-

ment decided not to privatise

in state-of-the-art processing

mills for paper and board over

the past decade by big names

Such gains could evaporate if

supplies are allowed to plum-

the Forestry Commission, it offered a sop to the industry with e 10 per cent increase in grants towards new commercial tree-planting. The Forestry Commission says that "all the indications are thet commercial conifer planting is on the up" as a result of the new grants. But landowners and timber processors are sceptical about the

long-term impact and complain

the changes amounted to no

more than "tinkering" by a

JOTTER PAD

cash-strapped government. Sections of the industry acknowledge the government has tried to create e favourable investment climate through, for example, its farm woodland grant schemes introduced in 1989 and its successful effort to persuade the European Union to agree that set aside land

could be planted with trees from July this year. But they argue that far more radical ection is needed to meet the government's own

targets. Forestry is neither eligible for tax relief on investment nor subject to taxation et the time of sale. The Country Landowners' Association, which represents 50,000 landowners in England and Wales, wants foresters to be able to choose irrevocably either to be in the tax system - facing tax on receipts hut relief on planting and man-

At Tilhill, Mr Johnson says people contemplating a 35 to 40-year investment "need something upfront." To calm environmentalists' fears of a repeat of the 1980s conifer eyesores, he argues thet today's tight regulations on new plantations and woodland management would prevent this.

thers say forestry must be opened up to small investors. Prototype funds requiring as little as past year, But Mr Ronnie Williams, executive director of the Forestry Industry Committee, complains that no market is yet svailable in the shares, and forestry unit trusts are barred from promoting themselves to new investors.

Mr George Dunn, economist for the Country Landowners' Association, says constant policy reviews are also discouraging when such a long-term investment is involved. "What we're saying to the government is: you've got to get it right and then leave it alone."

### COMMODITIES PRICES BASE METALS

LONDON METAL EXCHANGE

(Prices from Amalgameted Metal Trading) M ALUMINIMA 99.7 PURITY & per toppe 1759/1758 1794/1776 Open Int. Total daily tumover 203,519 47.313 ALUMINIUM ALLOY (S per ton 1530-40 1530-40 1575-80 3,023 Open int. Total daily tumover 1,833 ■ LEAD (\$ per tonne) 597.5-98.5 604.5-5.6 612-13 618-9 817/612 603 602.5-3.0 615.5-17.0 912-3 31,505 Open int.
Total dally turnover 4,383 MICKEL (S per tonne) 7955-65 8085-95 8405-10 8390/8060 8160-70 41,829 16,940 Open int. 7 gazl daily turnover III TIN (\$ per tonne) 6265-75 6290-300 8430-35 6360-70 19,426 6,554 **7otal dally turnow** cial bigh grade (5 per ZING, spe 1024,5-25.0 1001.5-2.5 1011.5-12.5 1008 1008-6.5 1033-4 79,254 18,328 Open int. Total daily turnover COPPER, grade A (\$ per tonne) 2908-7 2935-40 2926 2928-27

-1.50 133.35 131.90 1,565 -1.50 132.50 131.00 1,051 -1.60 132.20 130.90 18,041 -1.25 130.50 129.30 483 -1.05 405 -1.05 127.70 126.30 4,327 PRECIOUS METALS

184,789 48,985

Spot:1.59) 1 3 miths:1.5862 6 miths:1.5853 9 miths:1.5827

W LIME AM Official E/\$ rate: 1.5855

LME Closing E/S rate: 1.5880

HIGH GRADE COPPER (COMEX)

I LONDON BULLION MARKET (Prices supplied by N M Rothschild . S price 383.00-383.40 383.10 383.25 241,159 440,967 383.50-383.90 Day's High 382,00-382,40

383,60-383,90 Loco Ldn Meen Gold Lending Rates (Vs US\$) 4.02 3 months 342.25 345.05

349,15 356.80 681.80 £ equiv. 242-244 \$ price 383-386 384.10-396.55

Precious Metals continued GOLD COMEX (100 Troy oz.; \$/troy oz.)

price change regn low let Vol.

\$82.2 -1.6 \$84.0 \$82.1 \$2.146 \$1,059

\$94.8 -1.7 \$38.6 \$34.7 \$9.055 \$11,766

\$367.1 -1.7 \$38.6 \$34.7 \$9.055 \$11,766

\$369.5 -1.7 \$39.0 \$39.4 \$9.551 \$1,074

\$392.2 -1.7 - 12,555 \$79

\$394.9 -1.7 - 1,669 \$37

\$394.9 \$1.7 - 1,669 \$37 410.5 -13.2 421.0 410.5 1,856 ·13.7 421.5 408.0 17.420 2.389 PALLADIUM NYMEX (100 Troy oz.; \$/troy oz.) 14036 -5.15 144.50 140.75 5.141 725 26 5 -5.15 145.50 142.00 806 -5.15 7 SILVER COMEX (100 Troy oz.; Cents/troy oz.) 526.0 -17.5 530.0 528.0 810 600 530.8 -17.7 548.0 528.0 57,565 16,281 **ENERGY** CRUDE Oil. NYMEX (42,000 US galls. \$/berrel) Latest Day's price change 17.55 +0.01 18gh 17,67 17.44 72,226 50,163 1.704 17.00 9.765 CRUDE OIL IPE (\$/barrel 15.80 17.840 15.75 6,837 535 15.72 5,838 357 2,982 40 144,498 57,412 -0.08 15.75 MEATING OIL MYMEX (42,000 US galls; c/US galls.) 50.40 49.95 29.346 3,517 50.30 50.00 12.568 858 49.25 49.15 5 858 -0.05 +0.05 +0.30 -275 152.25 149.00 17,540 10,528 -2.25 162.50 150.00 20,558 -1.50 151.75 150.00 21,097 -0.75 149.50 149.25 3,616 148.25 -1.00 149.25 148.25 2,948 98,948 24,990

1.935 -0.002 1.875 +0.003

1.829 23,585 7,074 1,090 19,593 3,142 1,920 19,724 1,846 The There was good landed general demand this week reports the Tea Broker's Associations Selected best liquoring Assams sold well at between 180p/kg and 211p/kg, while others met good competition at fully firm rates. Brightest East Africans continued a strong feature 897 172 1.500 -0.004 1.870 1.800 8,414 123,165 15,215 est East Africars continued a strong reauter and were other dearer, perticularly pd's. Colcury mediums were fully firm to dearer but plainer and light liquoring types were irregularly easier. Brighter Ceyfons were and strong and showed substantial advences. Offshore good demand at firm to dearer rates. Quotationa best aveilable: 211p/kg, good: 145p/kg, good medium: 122p/kg, medium: 90p/kg. low medium: 74p/kg. The highest price realised this week was a 211p/kg, for a north Indian pf. +0.32 53.48 52.35 24,150 14,535 -0.02 51.65 51.00 12,540 4,362 -0.12 51.25 50.65 9,207 1,800 -0.02 51.65 51.00 12.540 -0.12 51.25 50.65 9,207 -0.10 50.80 50.80 2,558 311 100

GRAINS AND OIL SEEDS **■ COCOA** LCE (£/tonne) 884 - 26 908 880 27,085 4,413 916 - 23 937 913 30,672 3,484 934 - 32 933 890 13,891 427 952 - 21 973 950 3,924 471 959 - 21 985 965 11,786 309 988 - 21 1005 988 114.70 -0.70 115.15 174.70 2,621 231 485½ 64,971 14,448 494 22,860 6,880 460½ 2,579 510 411 8,244 1,937 1298 17.240 1.735 1320 7,432 1349 3,475 1337 4,295 5,878 MAIZE CBT (5,000 bu mir; cents/56to bushel) E COCOA (ICCO) (SDR's/tonne) +0/4 315/2 310/0 252,052 31,255 +0/6 322/4 316/0 123,616 12,75/4 +0/2 324/4 320/2 19,849 1,407 323/2 316/6 36,211 2,569 +86 2375 +64 2256 +71 2200 2370 2270 12,892 2,150 2256 2200 2145 2105

2195 7,052 1,266 2150 3,037 676 2100 2,099 31 2085 205 32 ■ COFFEE 'C' CSCE (37,500fbs; cents/fbs) 121.80 +4.55 123.20 119.50 18,679 5,762 118.25 +4.75 120.00 117.10 8,539 1,407 118.35 +3.40 118.00 117.75 1,932 238 118.95 +3.95 119.00 119.00 407 24 118.75 +4.00 118.00 118.00 251 18 118.25 +4.00 117.50 117.50 53 1 ■ No7 PREMIUM RAW SUGAR LCE (cents/lbs) 391.0 +2.7 332.0 328.0 10.283 353 314.9 +1.1 318.0 313.5 10,503 669 310.1 +0.9 310.8 309.0 2,836 121 307.0 -0.3 307.6 305.9 1,205 19 281.0 +0.7 280.3 279.5 1,705 19 278.5 +0.7 278.5 277.0 582 1 278.5 +0.7 278.5 277.0 582 1 SUGAR "11" CSCE (112,000lbs; cents/lbs) 10.25 +0.67 10.30 10.25 +0.06 10.29 10.24 +0.01 10.28 10.21 -0.09 10.24 10.30 10.20 55,433 14,407 10.29 10.18 17,201 1,175 10.28 10.20 12,528 103 10.19 12.161 COTTON NYCE (50,000lbs: cents/lbs) 93.65 +0.20 96.50 93.20 810 65 99.65 +0.09 91.59 89.30 32,635 3.134 90.57 +0.18 92.39 90.05 15,361 1,001 91.30 +0.20 93.18 91.15 6,845 91.65 +0.35 93.30 91.50 5,194 79.75 -0.25 80.25 79.50 1,294

116.70 +0.70 119.75 118.75 Open interest and Volume data shown for contracts traded on COMEX, NYMEX, CBT, NYCE, CME, CSCE and IPE Crude Oil are one REUTERS (Base: 18/9/31=100)

■ ORANGE JUICE NYCE (15,000(bs: cents/lbs)

110.35 +1.00 110.75 108.50

112.25 +0.90 112.45 110.75 114.70 +0.70 115.00 113.50

Sep 29 month ago year eg 2094,7 2221,0 2090.7 E CRB Futures (Bass: 1967=100) Sep 28 month age 241.79 239.86 ■ GSCI Spot (Base: 1970=100)

MEAT AND LIVESTOCK LIVE CATTLE CME (40,000/bs; cents/los

63,925 -1.025 64,650 63,900 13,000 65,725 -0.925 68,500 65,700 26,144 3,993 60.800 -0 300 61.180 60.800 944 ■ LIVE HOGS CME (40,000lbs; cents/lbs) 45.525 -0.825 46.180 45.450 9,517 45.425 -1.175 46.250 45.300 11,930 47.700 ·1.180 48.050 47.500 6.206 ■ PORK BELLIES CME (40,000lbs; cents/lbs) 60.050 -0.975 60.700 59.200 5.441 1.031 60.150 -1.050 60.650 59.375 465 126 60.550 -0.950 81.300 60.000 87 5 62.425 -0.875 62.550 61.300 398 19 Feb Mer May Jul

LONDON TRADED OPTIONS

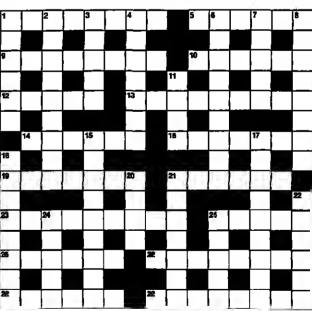
**■ COPPER** COFFEE LCE 336 384 432 Dec 31 20 7

LONDON SPOT MARKETS \$14.81-5.01w -0.005 -0.055 +0.035 W.T.I. (1pm est) \$17.57-7,58w prompt delivery CIF (tonne) \$150-151 \$177-179 \$154-155 IN OTHER

Gold (per troy oz)-536.5c \$420.75 \$141.50 Concer (US prod.) Una. 41.75c 16.02m Lead (US prod.) Tin (Kusia Lumpur) 299.5c Cattle (live weight)†
Sheep (live weight)†4 128.020 95,340 Lon. day sugar (raw Lon. day sugar (wto \$288.10 \$371.50 Berley (Eng. feed) Maize (US No3 Yellow) 2104.0w Wheat (US Dark North Unq. Rubber (Nov)♥ Rubber (Dec)♥ Rubber (KL RSS No1) 69.00p 337.5m Coconut Oil (Phil)§ Paim Oil (Maley.)§ Copra (Phil)§ \$615.02 448.0y 186.0u beens (US) 93.70c 475p

### **CROSSWORD**

No.8,882 Set by DOGBERRY



turned to fury (8)
5 Locate in total discharge (6)
9 Best part of holiday in contories? (8) 10 Man of rank; to wit? To wit. 12 Bore sick, pursuing medic (5) 13 Island to island cover against

effect of sun (9) 14 Adulterate drink in spare room (6) There's nothing ice can produce like a lot of water (7)

while inquisitor questions (6) 28 Composer's quiet, therefore said to be idle (9) 25 Sect bolding virgin leader to 20 Gloated at team (4)

Sikhs spoiling for s fight (8) Integral points on flag (6) 29 Exiled from 'ere as punisb-

1 Transfer to the south east and withdraw (6) finement - between promon- 8 Resort left with poor accom-4 Compiler in river turning to 6 Little Prince and his wife act like Casanova? (9)

7 Unexpected development of 3 Pickle turning boy into girl (8) 16 Divine purpose is just what 11 Very much st ease with arms one needed (7) 15 Ferryman

carry false Idol (9) 21 lt's spplied to thumbscrews 17 Learning to put sport into print (9) 18 Swimmer sional in style (8)

21 Be amusing about river - not much of one (7) friction with the Financial 22 Hamlet, say, containing pub nymph (6)

27 Seaman - one grabbed by 24 Small jumpers on top of the perch (5) 25 Sallor beving afterthought about fish (5)

Solution to Saturday's prize puzzle on Saturday October 14. Sointion to yesterday's prize puzzle on Monday October 16.

### INTERNATIONAL CAPITAL MARKETS

D-Mark weakened slightly

■ In Spain, figures showed pro-

ducer prices increased by only

0.1 per cent in July. The Span-

ish December futures contract

rose 0.32 to 88.89. The 10-year

bond yield spread over German

bunds narrowed to 429 basis

In late trading, the Italian

December futures contract on

Liffe was down 0.21 at 101.29;

the 10-year yield spread over

bunds widened to 540 basis

points from 528 points at the

■ In the UK, the September

purchasing managers' index, which surveys business activ-

ity, fell to its lowest level for

In late trading, the long gilt

**NEW INTERNATIONAL BOND ISSUES** 

Nov.1999 undated

undated

103.30 Nov.2002 2.50

1.00

against the US dollar.

# Treasuries rise on weak activity data

By Lisa Bransten in New York and Graham Bowley in London

US Treasury prices added to the sharp gains made on Fri-day after data on manufacturing activity was weaker than many economists expected.

Near midday, the benchmark 30-year Treasury was 🚆 higher at 105% to yield 6.447 per cent.
At the short end of the maturity spectrum, the two-year note was up 🚉 to 991, yielding 5.767 per cent.

The strong gains by shorterterm securities led the twoyear to 30-year yield curve to steepen by 3 basis points to 68 basis points in early trading.

Prices jumped at mid-morning after the National Association of Purchasing Management said its index of business activity in September came to 48.3 per cent. That was up from August's reading of 46.9 per cent, but below expectations of 50 per cent. A reading below 50 per cent is generally considered a sign of contracting manufacturing activity.

Adding to the good news for bond market investors were figures showing that construction spending slipped 0.2 per cent in August, partially reversing the 2 per cent increase posted in July.

However, bonds shrugged off signs that consumers may be about to add some life to the economy.

Figures from the Commerce Department showed that personal consumption jumped by 1 per cent in August, even as personal income held steady at July's level. Economists had forecast a 0.6 per cent increase in consumption accompanied by a 0.1 per cent gain in

The dollar lent some support to bonds by pushing back through the Y100 level and gaining egainst the D-Mark after eliding for most of last

In early trading, the US currency was changing hands at Y100.60 and DM1.4303 compared with Y99.73 and DML4278 late on Friday.

■ The stronger mood of US Treasuries and evidence of firmer official support for monetary union after the weekend meeting of EU finance ministers lifted European govern-

ment bonds yesterday. The largest gains were seen in the Spanish and UK markets, where economic data pointed to slower growth and

GOVERNMENT

BONDS lower inflation, raising the

prospect that interest rates in these countries might soon be Only Italy and Sweden regis-

tered falls in their government bond markets. Italian bonds were dogged by worries over the progress of the 1996 budget. Analysts said there was particular concern over former prime minister Sil-

future on Liffe was up # at 105%. The 10-year gilt spread over German bunds narrowed vio Berlusconi's response to to 164 basis points from 169 the budget proposals. German bunds lagged behind points at the end of last week. The yield spread over US other European markets as the Treasuries widened further to

previous close.

points.

200 basis points, however, from 181 points at last Monday's

Mr Julian Callow, international economist at Kleinwort Benson, said that "this now provides an opportunity for investors who are long of the US to switch into gilts".

He thinks that UK inflation is set to decline over the remainder of this year, which means that "gilts are likely to out-perform both Germany and the US". He said that this would also "favour conventional gilts over index-linked

However, Mr Paul Meader director of fixed income at Matheson investment Manage-ment in London, thinks that while the UK's fevourable inflation and interest rate outlook makes gilts attractive, he prefers Irish gilts, which he says avoid the political risk which investors in the UK face.

■ German financial markets will be closed today for the

Book numer

+28(51/4%-00) Banque Paribas (Deutsch.

+170/81/5-17) Merril Lynch International

+17®

Price Indices UK Gäts

1 Up to 5 years (23) 2 5-15 years (21) 3 Over 15 years (9)

Over 5 years (1)
Over 5 years (11)
All stocks (12)

Parties Capital Markets JP Morgan Securities

### **Swedish** bonds top performers last month

By Graham Bowley

Sweden was tha bast performing government bond market last month, according to J.P. Morgan's bond index. It posted a return of 3.96 per cent in local currency terms. in spite of uncertainty over European Monetary Union.

Jepan was the second best performer, posting a total return of 3.17 per cent helped by an unexpected cut in the official discount rate from 1 per cent to 0.5 per cent.

Australia and Canada also performed well, registering total returns of 2-32 per cent and 1.52 per cent respectively. "Investors sought to take advantage of a favourable outlook for inflation and fiscal restraint" in both these coun-

tries, the report says. The row over the proposed European single currency, which erupted at the end of last month, caused a sethack in high-yielding European

markets, the index shows. French government bonds were the hardest hit. France was the only market to register a negative total return last month, of minus 0.13 per cent. "Political uncertainties, con-

cerns about the lack of prog-ress on the 1996 budget and growing doubts about France's ability to meet Emn's fiscal conditions contributed" to the decline, the report said. US, German and UK govern-

ment bonds under-performed the global index, which posted a return of 1.25 per cent. German bonds registered return of 1.15 per cent. UK gilts reacted poorly to the UK's first uncovered gilt anc-

tion, posting a return of 0.44 per cent. US Treasuries saw a total return of 0.89 per cent as "signs of stronger growth reawakened memories of last year's global bear market", the report says.

8.38 5 yrs 9.78 15 yrs 9.84 20 yrs 8.83 irred.† 9.35

### First Polish GDR issues on the way

By Christopher Bobinski in Warsaw

Companies listed on the Warsaw Stock Exchange (WSE) are beginning to look to global depositary receipts (GDRs) to raise new capital, as is the government in pursuit of its bank privatisation programme.

At the end of last week, Stalexport, a listed Polish steel trader which is planning investments in the domestic steel industry, became the first company to obtain approval from the Polish Securities Commission (KPW) for e new share issue, which includes plans to raise capital abroad through GDRs. Stalexport, whose 8.8m

quoted shares are currently quoted at 32 zlotys (\$12.8) on the WSE, is hoping to place Im to 5m new shares with GDRs covering up to 25 per cent of its equity following the capital

The company currently has a market value of 282.7m zlotys and is trading on a price/earnings ratio of 6.4.

The Stalexport issue, which opens on October, 30 with HSBC Investment Services acting as lead adviser, is seen as a trial run for the privatisation of Bank Gdanski, in which shares are also to be offered to investors abroad through GDRs.

Reserve In

MARKETS REPO

6.2

1-6-

A STANDARD BANKS AND A STANDARD AND

EXCHANGE CROSS

A COMMON COMMON

171.75

In the Bank Gdanski issue, due at the beginning of December and for which HSBC is also acting as the lead adviser, 75 per cent of the bank's equity is to be offered for sale, with a third of the total to be placed abroad

HSBC is planning to build books abroad for both Stalexport, which wants to raise at least \$50m for the modernisa-tion of the Labedy and Ostrowiec Swietokrzyski mills as well as the Szczecin steelworks, and for Bank Gdanski. The bookbuilding will help HSBC ascer-tain issue prices for domestic investors.

The government is hoping to raise in the region of \$160m from the Bank Gdanski sale with around half of the revenues coming from abroad.

### Toyota Motor Credit set to launch \$750m deal

By Antonia Sharpe

Toyota Motor Credit Corporation is set to launch its widely-expected \$750m issue of five-year eurobonds today or tomorrow. The bonds are likely to be priced to yield about 22 basis points over five-year US Treasuries.

### INTERNATIONAL **BONDS**

The deal, the biggest dollardenominated corporate bond issue since March 1993, has attracted considerable interest and a large amount of bonds bave been pre-placed. The issue is being arranged by Merrili Lynch, Nomura and SBC

TMCC's offering is one of several big dollar deals which

WORLD BOND PRICES

should emerge in the coming weeks. Italy is expected to raise \$2hn with

later this wee The offering anese retail i in two trancl could be raise zero-coupon remainder in

is aggressive. The zero-coupon bonds could yield 10 basis points less than Treasuries while the coupon bonds could offer only a nominal spread over Treasuries. However, worries that the bonds would yield well below Treasuries are said to be unfounded.

Asian Development Bank is close to launching its \$750m 10year global bond offering, via Daiwa and Morgan Stanley. The pricing of the bonds is

in a nve-year deal
k, via Daiwa.
g, targeted at Jap-
investors, will be
nes: abont \$1.5bn
ed in the form of
bonds with the
coupon bonds.
n Italy's offering
mit a series assessment

World Bank's 10-year global

expected to be close to the

US DOLLARS

SWISS FRANCS Kingdom of Sweden Final terms, non-callable unless stated. Yield spread (over relevant government bond) at taunch supplied by tead manager, ‡ Finaling-rate note, #Semi-annual coupon. It flued re-offer price; fees shown at re-offer level, sp Callable on coupon dates from Nov.00 at par. at) 3-min Libor +125bp to Nov.00 and +275bp thereafter, b) Exchangeable at option of issuer into undated preference shares paying 10%%se gross (nitted coupon 2.3% net). I) Over Interpolated yield, § Long 1st coupon.

bond, which yields about 24 basis points over Treasuries.

Abbey National, which yesterday raised £300m through issues of undated bonds exchangeable for capital (X-Cap bonds) and preference shares, may also tap the dollar

150 4.375

200

1014

sector. It is considering raising \$750m through a 10-year global subordinated bond under its US MTN programme. Goldman Sachs and Lehman Brothers are favourites to arrange the offering, which is likely to be priced to yield 60 to 65 basis points over Treasuries.

100,432

Merrill Lynch, which underwrote yesterday's transaction, said the preference shares sold quickly, helped by the decision to pay dividends gross of advance corporation tax, but the X-Cap bonds, a new instrument for many UK institutions. were taking longer to sell.

FT-ACYLLARIES FIXED INTEREST INDICES

121.78

144.78

+0.29 +0.56 +0.26 +0.28 +0.42

121.43

### Comalco NZ looks to long-term funding needs

year."

7.70 8.26 8.29

8.82 8.84 8.84

Oct 2 Sep 29 Yr. ago

7.65 8.31

Oct 2 Sep 29 Yr. ago Oct 2 Sep 29 Yr. ago

7.58 8.22

8.75 B.71 8.67 8.72

Oct 2 Sep 29 Yr. ago

Comalco New Zealand, the aluminium processor, hes hired Ord Minnett Securities (NZ) to assist it in evaluating future long-term funding operations, the company said, AP-DJ reports from Welling-

ton. The company said that the funding would be related to the planned NZ\$480m upgrade of its 79.4 per cent-wned Tiwai Point aluminium smelter located on New Zealand's South Island.

The remaining interest in the smelter is held by Japan's Sumitomo Chemical Corp. Comalco New Zealand is 100 per cent wned by the alumin-

ium producer Comalco Australia which in turn is 67 per cent owned by the Australian mining concern CRA.

The market has been specu-lating on a possible flotation of Comalco shares sometime this year. But the company said such speculation was prema-

"Contrary to media speculation no decision has been made to seek listing on the New Zealand Stock Exchange," said Mr Kerry McDonald, managing director of Comalco. "We are considering a number of options and expect to make decisions by the end of the

BENCHMARI	GOVE		ENT BO				M BURED	<b>FUTURES</b>		LIFFE DM	250.000	points o	1 100%		
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### CURRENCIES AND MONEY

MARKETS REPORT

# Sterling rallies on company takeover rumour

Rumours of foreign investors purchasing sterling for possible take over bids and the better performance of UK asset markets yesterday helped the pound outperform on the for-

eign exchanges.
Unusually, it was able to make gains against both the D-Mark and the dollar at the same time. Sterling finished in London at DM2.2693, from DM2 2521, and at \$1.5871, from \$1.5827. The trade weighted index closed at 85.2 from 84.7.

Elsewhere, the dollar put on a firmer showing ahead of the weekend G7 meeting in Washington where exchange rate policy is expected to be a topic of discussion.

There was a slight divergence in its performance against the yen and the D-Mark, with gains against the Japanese currency, which allowed it to stay above Y100. unmatched by similar progress against the D-Mark.

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Trading was generally quiet with volumes low and attention focused mainly on the G7 meeting and the US payrolls report on Friday. The dollar finished at Y100.585, from Y98.65. Against the D-Mark it closed at DM 1.4299 from DM1.423.

There was little obvious market fall-out from the meeting in Valencia of EU finance ministers and central bankers. Most currencies made gains against the D-Mark, with the lira fin-ishing at L1,126 from L1,133. The French franc closed at FFT3.447 from FFr3.451.

Although the Valencia meeting was not wholly successful in dispelling uncertainties. market prices appear to have factored in a considerable amount of EU related risk.

E Pou	ed in New Yor	<u></u>
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■ The quiet markets yester-day would appear to reflect caution on the part of traders and investors ahead of the weekend G7 gathering. There is still a residual belief that central banks may intervene to buy the dollar, and anticipation that the G7 gathering may well produce further evidence of commitment to boosting the

"They have invested a fair amount. They are not going to give up at tha first whill of grape-shot," said one trader. Mr Robin Marshall, chief

economist at Chase Manhattan in London said the Bundesbank remained a key variable. Not only was their attitude to foreign exchange intervention a crucial factor in determining market sentiment, but their approach to monetary union in Europe affected the attractiveness of the D Mark, and hence the dollar. So long as the Bund-esbank preached the need for a strict epproach to Emu, this would ettract flows into the

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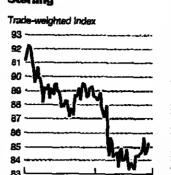
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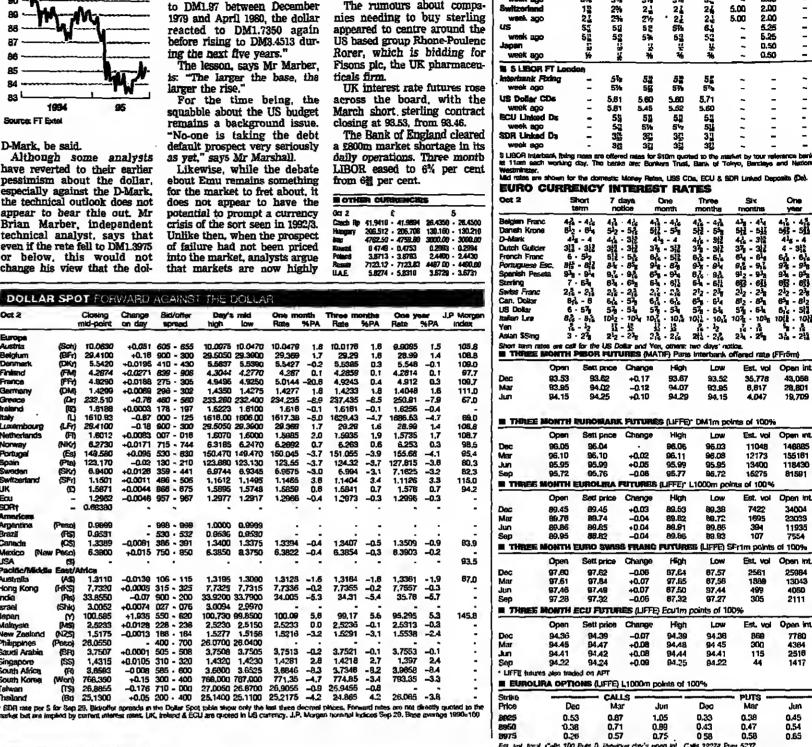
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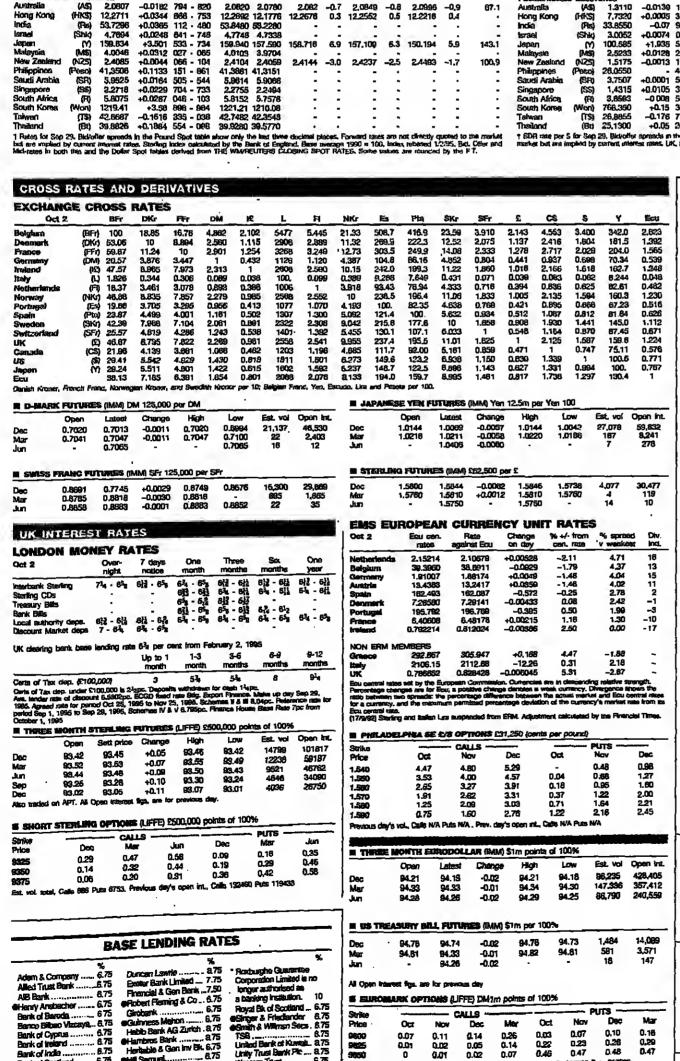
D-Mark, be said. Although some analysts have reverted to their earlier pessimism about the dollar, especially against the D-Mark, the technical outlook does not appear to bear thie out. Mr Brian Marber, independent technical analyst, says that even if the rete fell to DM1.3975 or below, this would not change his view that the dol-

sceptical about Emu. lar's main trend is still up. "All of the advance from

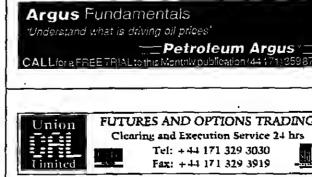
M Sterling's rally was helped October 1978's DM1.72 low to by bargain hunting on the part of foreign investors following November 1978's DM1.9305 had been given up by December the shake-out last week in UK 1979, while after a renewed advance from that DM1.71 low asset markets.

The rumours about companies needing to buy sterling appeared to centre around the US based group Rhone-Poulenc Rorer, which is bidding for Fisons plc, the UK pharmaceu-





All of these securities having been sold, this announcement appears as a matter of record only. **NEW ISSUE** September 26, 1995 \$750,000,000 Hanson Overseas B.V. 6<sup>1</sup>/<sub>4</sub>% Guaranteed Senior Notes Due 2005 Guaranteed as to Payment of Principal and Interest by Hanson PLC **CS First Boston** Lehman Brothers J.P. Morgan Securities Inc. Morgan Stanley & Co. UBS Securities Inc. ABN AMRO Securities (USA) Inc. BA Securities, Inc. BZW Securities Inc. Chemical Securities Inc. Citicorp Securities, Inc. NationsBanc Capital Markets, Inc. NatWest Capital Markets Limited Paribas Corporation Toronto Dominion Securities (USA) Inc. SBC Capital Markets Inc. Argus Fundamentals Understand what is driving oil prices  $\pm$ Petroleum Argus $^*$ 







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### LONDON STOCK EXCHANGE

### Equities respond to renewed bid talk in utilities

The takeover fever that has encompassed the utilities areas of the UK stock market throughout the summer period showed no stens

of abating yesterday. The expected bid for Southern Electricity was followed by intense speculation that this morning could witness at least one new bid and an increased offer. After confirmation of National Power's move on Southern the spotlight shifted to London Electricity, whose shares rocketed on talk that

a bid is imminent. An increased

offer for Norweb from the US was

also thought a possibility, while

Northumbrian Water jumped again as the market became increasingly of the view that a bid from Lyonnais des Eaux is around the corner. The news and rumours emanating from the utilities sectors more than offset what were seen as worrying signals from across the Atlan-

sell-off on Wall Street. At the end of an intriguing trading session in London, the FT-SE 100 index was left with a healthy 12.0-point gain at 3,520.2.

tic, where the day's economic news

prompted an early and sizeable

The second-tier FT-SE Mid 250 underperformed the leading index, posting a 10.1 improvement at 3,958.9, in spite of widespread heavy

gains in many of the water and electricity issues which figure prominently in the index.

The takeover frenzy in the market was by no means confined to utilities. Dealers pointed to numerous developing bid situations in the market, notably for Gartmore, the investment management group, where specialists point to a long list of potential buyers of Banque Indo-

suez's 75 per cent stake. An increased offer from Rhone-Poulenc Rorer for Fisons, the pharmaceuticals group, was also said to be on the cards for this week.

A more speculative area of the market being lifted by bid rumours was the computer software sector,

where companies such as Virtuality and Superscape spiralled higher on talk that some big global electronics groups could be looking to take out the small specialists companies.

Earlier, the market had struggled to make progress, relinquishing an initial modest rise of around two points to display a five-point decline in mid-morning. This was attributed to the latest UK purchasing managers index for September, which indicated a continuing slowdown in eco-

nomic growth.

And with Wall Street coming in under pressure - the Dow Industrial Average was down about 20 points shortly after US trading commenced - the FT-SE 100 remained

its 75 per cent holding. Analysts said the possible interested parties included Pruden-

tial off a penny at 377p, and

National Westminster, which

fell 7 to 625p after a good run.

shed 4 to 214p, with UBS believed to be offering a line of

Im shares around the market.

to 546p as NatWest Securities and SBC Warburg reiterated

their buy stances.

Abbey National improved 5

Hardy Oil & Gas, seen both

as prey and predator within

the exploration and production

area of the oil sector, jumped

12 to 186p on turnover of 1.5m.

Industries dipped a penny to

195p on the news that heavier than expected provisions will

be needed to resolve its

long-standing defence contract

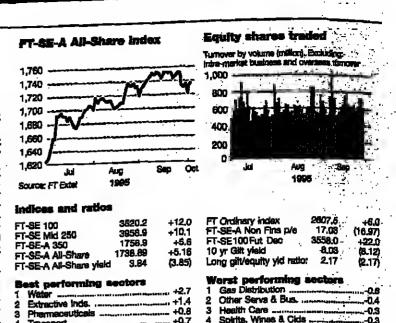
Motor parts engineer Lucas

Guardian Royal Exchange

in negative territory until the latest bid stories in the Recs picked up. Marketmakers said the market would have been in even better form except for Wall Street and

pointed to evidence that the money from Hanson's bid for Eastern, and some of the cash from the Scottish Power buying of Manweb stock, had been pushed into the market yesterday. "There could well be 30 to 40 points upside in the market short term," said a senior trader.

Turnover of 687m was inflated by huge activity in one of the market's penny stocks, Anglo United, which accounted for 21 per cent of the overall figure, Retail business on Friday was a respectable £1.61bn.



### **Bid focus** remains on Recs

Bid focus started and finished in the electricity sector yesterday. In early dealing, National Power ravealed its widely flagged offer for Southern Electric. And, shortly before the ciose, shares in London Electricity shot forward more than 6 per cent, signposting the Metropolitan company as the next one to fall.

However, marketmakers also had waters on the brain and cash poured into that sector attracted by the likelihood of an offer for Northumbrian Water by Lyonnaise des Eaux, of France.

Also, Thames Water was seen as one suitor mooted to bid for London. Dealers pointed out that, in an area where property prices are at a premium, it could save cash by merging the head offices. It could also cut costs in meter reading, billing and customer

Thames was regarded as the most likely bidder in a list that includes Pacific Gas & Electric. Florida Power and Electric, and RWE, of Germany.

During the last few minutes of trading, London Electricity's share price ticked sharply higher. At the close the shares were up 55 or 6.36 per cent at 920p. At that price they are some 30p to 50p below the range of estimated take-out prices. Analysts suggested that within the current climate that

the very least, be bound to prompt a Stock Exchange directive to the company to reveal whether it knew of any reasons for the movement.

"London has been romping away in very much the same way as Southern, which had a bid yesterday morning, did on Friday," said one dealer.

Thames ended 15 higher at 1013p. Southern gained 69 at 966p on turnover of 25m shares after the 1010p a share bid from National Power, which closed 121/4 off at 5031/4p. Northumbrian rose 18 to 1013p.

The rest of the waters sector was further lifted by cash pouring in from former Eastern Electricity shareholders following the Hanson bid.

### Vodafone slips

Mobile phones group Vodafone closed 4 lower at 261%p. with 5.5m shares traded, as new subscriber numbers for the 1995 third quarter fell short of market expectations.

Net new connections were 148,000 for the three months to September, compared to market estimates that ranged from 150,000 to 200,000, and 220,000 in the seasonally most active

1995 second quarter.
Analysts said the UK market leader had stood aside from the heavy promotion push being undertaken by competing operstors in the run-up to the important Christmas selling period. Some telecoms teams saw this as a move by Vodafone to weed out some of its more marginal business.

Zeneca peaks

Pharmaceuticals giant scale of movement would, at Zeneca saw its shares hit a

new high after jumping 30 to holder Banque Indosuez 1175p. The company has been announced that it was selling seen as a possible bid target its 75 per cent holding. Anafor some time. However, a catch-up with the ratings of US rivals and a technical squeeze in London may have been more plausible reasons for the rise. As the market closed there was also an announcement that results from the first phase three clinical trial of Zeneca's Seroquel drug show

tial benefits in the management of schizophrenia. British Biotech surged another 43 to 908p ahead of a key research and development presentation to analysts in London today.

the drug should offer substan-

Investment management group Gartmore bounded forward for the second trading day in a row as speculation increased that a bidder would

Rumours were sparked on

dispute with the Pentagon. Friday after majority stake-FINANCIAL TIMES EQUITY INDICES

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†Excluding Intra-mark		inerat and	DV609646	turnove	٧.				

Rises and falls"		1995 Highe and	lows	LIFFE Equity optic	206
Total Piles	665	Total Highs	111	Total contracts	31,155
Total Felts	588	Total Lows	38	Calts	9,552
Same	1,715			Pute	21,603

announcement in a positive light, "This is an attempt to wipe the slate clean ahead of next Monday's full-year results statement," said one trader. Smith New Court moved from

hold to buy on the shares. Traders said a two-way pull had developed at one stage as talk turned to the possibility of Lucas cutting its dividend. But most analysts felt Lucas had the balance sheet strength to

maintain the payment. Profits downgrades from ABN-Amro Hoare Govett and Panmure Gordon left materials handling and mining engineer

FKI 5 lower at 171p. Eurotunnel raced to the head of the FT-SE Mid 250 performance charts as rumours of imminent managemant changes reached the market. Up 6 on Friday, the shares put on a further 6 to 96p in turnover of 1.7m. In Paris, almost 5m shares changed hands.

The Channel tunnel operator, due to announce Septemher traffic figures and interim results this week, is currently negotiating a rescheduling of its £8bn of borrowings.

Satellite broadcaster BSkyB added 14 at 396p on talk that it is about to raise prices.

Media conglomerate Pearson

recovered 8 to 597p after Henderson Crosthwaite, the agency broker, said it was worth £5bn or 900p a share. Housebuilder Barratt Developments shed 5 to 189p as sto-

ries about the company stepping up its customer incentives in order to counter weak unit sales circulated among construction analysts. Tarmac was said to have been the subject of a broker sell note. The shares ended 2

lower at 92n. In contrast, brick-

maker Ibstock firmed 31/4 to 71p ahead of today's interim ys tumbled 18 to 70

In leisures, First Choice Holithe company disappointed the market with a warning that around film, against file.3m a FUTURES AND OPTIONS III FT-SE 100 INDEX FUTURES (LIFFE) \$25 per full index point

Media ...

year earlier. Rival tour operator Airtours moved lower in sympathy. closing 3 easier at 378p.

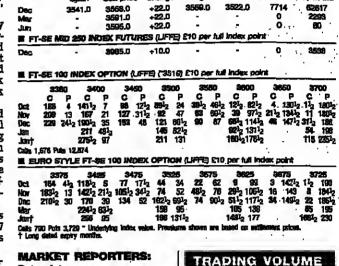
The market was cheered by news from London Clubs International that it had acquired the two companies that together own tha lease and business of the London Park Tower Casino. The stock advanced 12 to 414p.

Manchester United improved

5 to 211p ahead of today's final figures. Bargain hunting helped Granada Group harden 5 to 640p. Regent Inns was once again in demand and the shares climbed 14 to 592p, Profit-taking left Grand Metropolitan 5 lighter at 440p.

Bumper figures from Moss Bros saw the shares improve 7 to 570p. The dividend was raised from 3p to 5p.
Textiles group Hicking Pen-

tecost softened a penny to 253p after announcing a £14.5m purchase in the US.



M Major Stocks Yesterday

Sit ASDA Groupt ABDA Groupt Abbot Pales Abert Pales Abert Pales Anglas Waler Anglas Waler Anglas Waler Anglas Waler Anglas Waler Anglas Bar Foods† Assoc. Bit. Ports BAAT BET BICC BICC BET BOT BET BICK BET BICK

Vol. Closing Day's 000s price change

Open Sett price Change

MARKET REPORTERS: Peter John. Joel Kibazo, Jeffrey Brown

ON.	DO	N RE	CEI	IT I	SSUES: EQU	TIES					
ssue price		Mild.	1995			Close		Net		Gra	P/E
P	Up	(SIL)	High	Low	Stock	Ω	+/-	ďv.	COV.	yld	net
30	FP.	14.8	71	50	Consolidated Coal	67			_		
-	FP.	5.62	125	120	TELETO Sales Fin	125		_	_	-	
-	F.P.	6.00	40	25	Hay & Robertson	40	+4	<b>y-</b>	_	-	
-	F.P.	12.2	- 80	66	Timer Workings	73		-	-	-	
65		18.7	80	84	Mayflower .	87	412	Zv0.67	2.6	1.0	49.6
-	F.P.	9.73	334	312	Media Businees	34	-	-	-	-	
45		17.6	<b>S</b> 1	52	†MultiMedia	61		<b>v</b> -	_	-	
-		-	107	100	Murray Vet	107		-	-	-	
-	F.P.	5.30	98		TOTALCER	86	41	Hv1.5	4.0	22	14.3
-	F.P.	14.4	61		Pemberatone	60		<b>V-</b>	•		
100		30.6	104	99	Pictet British	102		-	_	-	
400	F.P.	3.62	400	400	†Preston Nth End	400		¥-	_	_	
129	F.P.	13.0	133		SCS Satellite	126		_	_	-	
149		47.8			Universal Salvaga	176		Mv5.07	1.7	3.6	20.
			-		Lines & Con the	1					-

	Sep	% chg	Sec	Year.	Gross dily	P/E	82 work	
	29	on day	28	legu .	yksid %	ratio	High	Low
Bold Milnes Index (34)	1986.73	+0.5	1976.14	2332.49	1.89	**	2332,49	1637.91
Regional Indices								
Africa (16)	2744.76	+0.7	2724.99	3562.30	3.95	25,25	3711.67	2428.18
Austratesia (6)	2398.36	+1.1	2373,26	2886.35	2.10	26.57	2951,49	1788.20
Morth America (12)	1709.53	+0.3	1703.88	1882.64	0.79	49.07	1882.64	1348.16

FT - SE Actuaries S	Actuaries Share Indices							The UK Series			
	Oct 2	Day's chge%	Sep 29	Sep 28	Sep 27	Year	Div. ylekt%	Net		Xd adj.	Total Return
FT-SE 100	3520.2	+0.3	3508.2	3479.0	3485.0	2983.5	4.01	2.07	15.05	115.95	1394.18
FT-SE Mid 250	3958.8	40.3	3948.8	3914.8	3908.8	3449.6	3.45	1.82	18.89	112.35	1538.44
FT-SE Mid 250 ex Inv Trusts	3982.5	+0.3	3970.7	3834.3	3927.5	3441.8	3.58	1.88	18.60	117.52	1547.48
FT-SE-A 350	1758.9	+0.3	1753.3	1738.5	1740.4	1500,2	3.88	2.02	15.93	57.66	1423.69
FT-SE-A 360 Higher Yield	1743.3	+0.3	1737.8	1720.9	1722.2	1497.1	4.97	1,82	13,82	72.94	1170.12
FT-SE-A 350 Lower Yield	1779.7	+0.3	1774.1	1751.3	1763.7	1465.7	2.78	2.39	18.86	41.10	1203.43
FT-SE SmallCap	1970.52		1970.43	1969.27	1971.32	1802.35	3.27	1.68	22.68	50.04	1563.26
FT-SE SmellCap ax Inv Trusts	1954.52		1954.27	1952.87	1954.00	1774.07	3.49	1.78	20.36	52.35	1578.23
FT-SE-A ALL-SHARE	1738.89	+0.3	1733.73	1720.19	1722.00	1490.83	3.84	2.00	16.30	56.00	1430.48
# FT-SE Actuaries All	-Share										
		Day's				Year	Div.	Net	P/E	Xd adj	Total
	O-4 0		F	Con DD	C 07						Ph-4

FT-SE-A 350 Lower Yield	1779.7	+0.3	1774,1	1751.3	1763.7	1465.7	2.78	2.39	18.86	41.10	1203.4
FT-SE SmallCap	1970.52		1970.43	1969.27	1971.32	1802.35	3.27	1.68	22.68	50.04	1563.2
FT-SE SmellCap ex Inv Trusts	1954.52		1954.27	1952.87	1954.00	1774.07	3.49	1.78	20.36	52.35	1578.2
FT-SE-A ALL-SHARE	1738.89	+0.3	1733.73	1720.19	1722.00	1490.83	3.84	2.00	16.30	56.00	1430.4
FT-SE Actuaries All-	Share										
TITOL MOTERING AND	-	Day's				Year	Div.	Net	P/E	Xd adi	Total
	Oct 2		Sep 28	Sep 28	Sep 27	ago	yield%	COVER	ratio	yta	Return
10 MINERAL EXTRACTION(23)	2947.12	+0.2	2940.08	2907.56	2917.69	2642.00	3.83	2.09	15.65	68.12	1232.7
12 Extractive Industries(7)	4283.35	+1.4	4223.90	4167.33	4171.08	3915.78	3.45	2.51	14.41	104.39	1218.6
15 Oil, Integrated(3)	2908.33	and the same	2908.91	2878.15	2888.51	2578.71	4.04	2.04			1247.3
15 Oil Exploration & Prod(15)	1571.82	+0.2	1966.86	1962,24	1964,50	1898.43	2.55	1.48	33.08	49.88	1170.4
20 GEN INDUSTRIALS(278)	1987.83	+0.1	1984.91	1968.41	1977.42	1859.38	4.14	1.81	16.72	68.90	1058.9
21 Building & Construction(38)	923,56				914.77		4.40	1.86		32.20	754.4
22 Building Mests & Merchs(31)	1740.37				1725,33		4.24	2.01		55.87	855.4
23 Chernicale(23)	2418 10				2418.54		3.98	1.83		79.34	1118.3
24 Diversified industrials(20)	1793.25				1782.44		5.53	1.58		67.14	974.3
26 Electronic & Blect Equip(36)	2132.25				2127.77		2.51	1.93		58.99	1085.3
26 Engineering(88)	2205.29				2189.17		3.29	1,99		55.11	1308.8
27 Engineering, Vehicles(13)	2664.53				2632.33		3.52	0.63		71.44	1345.6
28 Paper, Pokg & Printing(27)	2923.32				2932.24		3.40	2.50		85.03	1192.1
29 Textiles & Apparel(21)	1608.05				1802.34		4.49	1.78		50.56	950,5
30 CONSUMER GOODS(92)	3397.78	403	3388.69	3371.19	3345.81	2872.04	8.93	1.76	18.04	114.51	1225 7
31 Breweries(15)	2593.07				2591.09		3.84	1.99		62.40	
32 Spirits. Wines & Cidera(10)	2975.17				2910.93		4.02	1.84		95.15	1041.6
33 Food Producers(24)	2497.73				2481.27		4.05	1.77		80.26	1088.4
34 Household Goods(11)	2561.58				2596.61		3.72	2.08		59.15	950.2
36 Health Care(17)	1982.82				1971.61		2.82	1.81		37.42	
37 Pharmaceuticals(11)	4485.72	8.0+	4450.89	4448.02	4380.30	2946.97	3.60	1.57		153.87	
38 Tobacco(1)	4481.10	_+0.1	4476.86	4375.21	4413.33	3556,97	5.35	1.90		229.23	
40 SERVICES(226)	2178.72	+0.4	2197.11	2158.75	2167.93	1873.14	3.08	2.07	19.70	55.08	1108.0
41 Classifloutora(30)	2784.51				2726.49		3.50	1.75		73.00	991.7
42 Leisure & Hotele(29)	2484.90	+0.3	2477.71	2467.71	2494.37	2034.71	3.22	1.86		69.61	
43 Media(43)	3345.58				3331.61		2.18	2.41		75.14	
44 Retailers, Food(16)	2112.96				2126.29		8.41	2.42		58.30	
45 Retailers, General(44)	1800.95	+0,4	1792,97	1786.53	1786.71	1589.09	3.25	2.17		41.76	
48 Support Services(37)	1848,72	+0.3	1644,01	1835.97	1842.46	1458.97	2.48	2.44			1158.8
48 Transport(20)	2209,89	+0.7	2184,54	2178.10	2172.95	2178.62	3.90	1.27		72.44	901.7
81 Other Services & Business(7)	1218.98	-0,4	1223,27	1222.84	1223.54	1254.07	4.17	1.73	17.33	38.30	1091.3
60 UTILITIES(37)	2575.11	+0.4	2564,89	2529.42	2515.90	2283.11	4,43	2.02	13.98	86.37	1048.1
32 Electricity(15)	2792.69				2693.41		3.98	2.95	10.63	116,18	1242.6
64 Gas Distribution(2)	1753.63				1745.14		8.68	0.65		68.63	
66 Telecommunications(7)	2157.57				2133.22		5.80	1.71	18.25	51.48	959.6
58 Water(13)	2134,80	+2.7	2079.46	2025.65	2028.11	1784_98	5.37	2,75	8.47	85.07	1134.5
9 NON-FRANCIALS(956)	1880.76	+0.8	1655,1S	1841.10	1840.94	1514 <u>.47</u>	3.82	1.92	17.03	58.78	1374.7
70 FINANCIALS(113)	2915.75	+0.4	2606.58	2579.98	2595.95	2075.15	4.25	2.45		100.25	
71 Banks, Retali(9)	3587,52	+0.5	3569,06	3531.91	3567.22	2719.21	4.05	2.81		139,15	
72 Banks, Merchantilli	3631,92		3833.19	3634.16	3653.76	2617.27	2.56	2.75		83.89	
73 insurance(25)	1317.81				1322.88		5.59	271			959.26
74 Life Assumince(6)	3038.05		3037.04	2977.36	2945.59	2239.94	4.59	1.53		136.72	
77 Other Financial(22)	2399.17	+0.6	2318.97	2266.25	2263.55	1776.59	8.78	1.93		81.88	
79 Property(45)	1450.93	+0.2	1448,27	1447.75	1453.56	1443.44	4.26	1.34	21.90		987.8
80 INVESTMENT TRUSTS(194)	2940.62			_	2943.93		2.22	1.07			
89 FT-SE-A ALL-SHARE(903)	1738.89				1722.00				52.77		1012.4
			_	_			3.84	2.00		56.00	_
F-SE-A Fledgling F-SE-A Fledgling ex Inv Trusts	1074,33 1070,60		1072.90			-	2.83	1.19		24.32	
LOCAL LIGHT OF BLUGGED WATER	14/0.60	+0.2	1068,79 1	COS.	10/0.46	-	2.99	1,24	33.83	25.22	1097.93

Open 9.00	10.00	11,00	12.00	13
■ Hourly movements				
FT-SE-A Fledgling ex Inv Trusts	1070.60	+0,2 106	3,79 1089.	80 10

FT-SE 100 FT-SE Mid 250 FT-SE-A 350 3520.3 3958.9 1758.9

Actuaries 350 Industry baskets 11,00 12,00 13.00 16.00 924.4 924.4 4406.3 4412.3 4 8 2120.9 2120.9 924,3 924,3 4391.2 4408,5 2123,0 2122,8 924.4 4418.4 924.7 4413.5 824.7 924.6 4395.7 2074.6

18.10

### IN INDONESIA WE PROTECT THE RAINFOREST WITH FISH.

project

and food for the local community They also produce an invaluable by-product; a reason for the villagers to take of care the local rain forest. The pands require a supply of clean important to motivate by physical example than by just giving advice, WWF agricultural extension wntkers helped to ennstruct concrete tanks and dig fish

community benefits, and runs the fish pond

ship Officer at the address below.



WWF World Wide Fund For Nature (formerly World Wildlife Fund) ional Secretariat, 1196 Gland



1.500 2.400 1.400 1.500 2.400 1.500 2.400 1.500 2.400 1.500 2.400 1.500 2.400 1.500 2.500 1.500 2.500 1.500 2.500 1.500 2.500 1.500 2.500 1.500 2.500 1.500 2.500 1.500 2.500 1.500 2.500 1.500 2.500 1.500 2.500 1.500 2.500 1.500 2.500 1.500 2.500 1.500 2.500

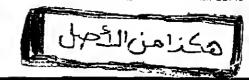
**XCTOBER** 

evening secting

Anjor Stocks Interes

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	JOM OCTOBE		D STOCK MARKETS			
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	1.00	Street 43 + 10 44.80 35.10 GREECE (Oct 2 / Drachma) 55 cm 43 + 20 4.80 37.50 2 Telegf 220 +1 220 172 2.5		- Rischus 271 - 8 385 170	us: 3,68 — 01 2,87 327 7.3 8.6 176155 Bmbd/8 nt 2,50 2,56 2 196845 Bmbd/8 nt 2,50 4,500 Bmbd/8 mbd/8 nt 2,50 4,500 Carl 2 nt 2,500 Carl 2 nt 2,500 Carl 2 nt 2,70 5.5 4,500 Carl 2 nt 2,500 Carl 2 nt 2,70 5.5 4,500 Carl 2 nt 2,500 Carl 2 nt 2,70 5.5 4,500 Carl 2 nt 2,500 Carl 2 nt 2,70 5.5 4,500 Carl 2 nt 2,500 Carl 2 nt 2 n	Particular of the property of
	"	Commiss	SWEDER (Oct 2 / Kronor)  - ASA 1	Aphtodo 1,700 1,810 1,460 8.7 Npt Nu 516 +25 752 451 Npt Nu 528 -21 674 370 Npt Nu 529 -21	2100 Cartus 4300 Cartus 2 KONNS (Oct 2 / H.K.S) 2500 Carting 450 Content 500 Cartens	は大きの主義の主でようなでは、 を放けます。 を放けます。 では、する。 では、なる。 でし、 でし、 でし、 でし、 でし、 でし、 でし、 でし、
	## 18   16   60   60   62   2   2   2   2   2   2   2   2		Interities   200   -9 203   238 24   Pubelle   721   -8 870 880     Interities   240   -1 247 180 42     Pubelle   721   -8 870 880     Interities   248   -50 21 19 180 34     Baloum   561   -1 175 232     Interities   238   -50 21 19 180 34     Baloum   561   -1 175 232     Interities   238   -50 21 207 24   Baloum   561   -1 175 23 25 12     Interities   36 -1.50 87 66 34   British   780   -8 50 132     Interities   36 -1.50 87 66 34   British   100   -30 1,100 920     Interities   36	Big   File   F	### 7.40 +10 7.90 8.20 8.7 8.9 4510 Calon   ### 1580 # 15.65 18.70 2.91 74 12199 Calon   ### 1180 +15.12 8.91 18.70 2.91 74 12199 Calon   ### 1180 +15.12 8.91 18.30 # 15.70 18.70 1	224 + 4 824 222 340 + 5 345 330 124 + 5 355 335 124 + 1 356 32 124 + 1 356 23 124 + 1 356 134 135 + 1 356 134 145 - 1 356 134
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4	Select   Color   Col	P4. S 2.870 -30 3.570 2.840 4.8 Whilm 135 -2 151 129 1.5 had 9,645 -251 1,600 8,745 1.8 had 9,645 1	Storna 64.50 110.50 M 6.8 Holder 2300 2479 1.999 Storna 63.50 110.50 M 6.8 Holder 2300 2479 1.999 Holder 2300 2479 1.999 Holder 2300 2479 1.999 Holder 2300 2471 2.775 Holder 2300 2571 2.775 Holder 2300 1.775 2.775 Holder 2300 1.775 2.775 Holder 2300 1.775 2.775	Olymp 918 -1.090 870 - 9718 -1.090 870 - 9719 - 971	15.2 2.80 2.05 2.55 1.50 - 8522 Pl. En mit 1.54	######################################
			Cartha T71 -1 207 350 John 527 -9 745 376 -		C-275 - 00 63.40 95.50 to 1.2 1.8 4179.05 Lobuston 8 8 8 70 - 11.5 10.20 10.20 2.3 16.8 4179.05 Lobuston 8 8 8 70 - 11.5 10.20 10.20 2.3 16.8 4179.05 Lobuston 9 12.50 2.5 4.6 3 16.8 40.758 Lobuston 10 0.68 + 0.2 11.3 0.74 - 3100 Lobuston 10 0.68 + 0.2 11.3 0.74 - 3100 Lobuston 10 0.68 + 0.2 11.3 0.74 - 3100 Lobuston 10 0.68 + 0.2 11.20 10.7 24.5 10.7 24.	112
	Colenty 2,800 -30 3400 1785 15 Schrief 10140 -30 275 131 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	space shuttle,	CS Reg 108.50 +1112.50 05 3.5	Spora 6590 - 10 6.704 4.960 0.6 Yach Sector 6590 - 10 6.704 4.960 0.6 Yach Sector 6590 - 10 6.704 4.960 0.6 Sector 6590 - 10 6.704 2.500 Sector 1 6.900 - 10 1.500 1.410 0.7 Sector 1 6.900 - 10 1.500 1.410 0.7 Sector 1 6.900 - 10 1.500 1.410 0.7 Sector 1 6.900 - 10 1.510 6.900 Action 1 6.900 1.50	100 2.35 +.05 3.10 2.10 3.1 470569 Medrica 4799 Medrica 4799 Medrica 4799 Medrica 4799 Medrica 4799 Medrica 4799 Medrica 4790 Medri	24 - 1 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2
	Beauth 190 -8 206 164 2.6 Street 35.3 4 -7.40 448 325 5.9 - Centh 273 +1 282 242 1.1 Synth 232 -82.0 137.4 -2.40 273 180.20 6.5 9 - Centh 274 +2 297 242 1.1 Synth 232 -8.60 328 212 1.9 - Centh 274 +2 297 242 1.1 Synth 232 -8.60 328 212 1.9 - Centh 275 -1 1.00 690 -	also makes the majority of the fax and data	CS Reg 106.50 +1112.52	- Street - 2400 - 250 -	2900 Noveco	95 185 185 185 185 185 185 185 185 185 18
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AMEX COMPOSITE PRICES

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# Dow shrugs off gains in bond market

### Wall Street

US shares shrugged off bond market gains, showing modest losses in early trading after a round of mixed economic data. writes Lisa Bransten in New

At 1pm the Dow Jones Industrial Average was off 14.81 at 4,774.27, the Standard & Poor's 500 stood 0.77 can SE composite 2.47 down at 542.25. New York SE volume came to 161m shares.

The benchmark 30-year Treasury bond jumped % of a point in morning trading after the National Association of Purchasing Management said that its index of business activity was 48.3 per cent in Septembe above August's 46.9 but below economists' expectations of 50 per cent.

But inflation-wary bond investors ignored figures from the Commerce Department showing that consumer spending rose 1 per cent in August to reverse the 0.1 per cent decrease in July. Since the second quarter, economists and officials from the Federal Reserve had been looking for gains in consumer spending to belp inject some vigour into

The Nasdaq composite, weighted towards technology, slipped 5.75 to 1,037.79. Semiconductor shares showed weakness, with Novellus Systems down \$1% at \$68% and VLSI Technology off \$11/2 at \$33%. On the NYSE, Micron Technology shed \$1 to \$78%.

stock market's bearish tone was the string of warnings from companies that their third-quarter performance might not live up to market expectations. Late on Friday Acordia, the

US insurer, forecast third and fourth-quarter sarnings of about 20 cents and 60 cents a share respectively, compared with analysts' projections of 45 cents and 77 cents a share. In early trading, Acordia fell \$2% or 8.6 per cent to \$25%.

Sharp declines in AT&T, off \$1 st \$64%, Caterpillar, \$1% st \$55%, United Technologies, \$1% at \$87%, and Sears Roebuck, \$1 at \$35%, caused the Dow to underperform the more broadly traded S&P 500.

The Dow did, however, get some support from Merck, which moved ahead \$1% to \$57% on news that the US Food and Drug Administration had given the company approval to market Fosamex, a drug to treat osteoporosis in post menopausal women.

### Canada

Toronto was weak in light midday trade as investors braced themselves for a mixed hag of third-quarter corporate earnings reports. The TSE 300 composite index had declined 117.36 by noon to 4,512.39 in volume of 22.6m shares.

The market's biggest losers included Potash Corp of Saskatchewan, off C\$114 at C\$8214 and BioChem Pharma, which dropped C\$1% to C\$42%.

### Mexico sees rates rise

Mexico City tumbled in thin, mid-morning trade on expectations of a rise in interest rates and worries about speculation on the peso. The IPC index was 31.98 down at 2,360.37 in weak

Traders noted that shares were also being sold by investors who were forced to build up stocks in portfolio restructuring at the end of the third quarter last Friday.

The heavily weighted Telmex L shares were down 1.6 declined 6.8 per cent.

SAO PAULO eased in light midday trade on profit-taking after the market's advance of more than 8 per cent last month. The Bovespa index was down 1.88 at 46,513 at 1 pm, in turnover of a thin R\$107.2m

LIMA was higher at midsession on light buying of blue chips by local investors as the market awaited the outcome of an overseas roadshow to promote the new Credicorp holding company.

0.3 per cent to 1,362.86.

	% (	dunge in too	al currency †		% change starting †	% change to US 3 †
	7 Week	4 Weeks	7 Year	Start of 1996	Spurt of 1995	Start of 1995
Austria	+0.21	-4.62	-10.08	-9.25	-2.28	-1.13
Belgium	-0.04	+0.81	88.8+	+6.56	+14.79	+18.14
Denmark	-0.29	-1.86	+2.59	+1.74	+10.81	+12.1
Finland	+1.26	+0.70	+30.33	+28.51	+41.31	+42.8
France	-0.04	-4.41	-2.80	-2.75	+4.46	+5.6
Germany	-1.52	-1.85	+4.64	+2.18	+9.99	+11.2
ireland	+0.34	+2.18	+18.58	+15.43	+18.56	+20.98
taly	-1.13	-3.38	-7.64	+0,59	+0.10	+1.2
Netherlands	+0.28	+0.94	+13.20	+8.80	+18.23	+19.6
Norway	+0.18	+1.51	+11.24	+2.77	+8.84	+11.13
Spain	·1.25	-2.06	+3.68	+7.10	+13.11	+14.4
Sweden	+1.18	+7.55	+33.49	+28.18	+37.04	+38.6
Switzerland	+0.83	+3.14	+17.67	+14,39	+28.77	+30.28
UK	-0.13	-0.21	+16.43	+14.01	+14.01	+15.34
EUROPE	-0.18	-0.42	+10.30	+8.00	+14.15	+15.48
Australia	-0.18	-0.18	+6.50	+11.27	+7.01	+8.2
Hong Kong	+0.62	+4.22	-5.90	+1\$.03	+13.78	+15.1
lapen	+1.95	+1.34	-7.87	-6.81	-6.94	-5.89
Malaysia	-2.18	-2.45	-13.65	+1.72	+2.27	+3.47
New Zealend	+0.84	-1.30	-0.72	+8.78	+10.59	+11.89
Singapore	+0.86	+0.98	-6.74	-2.96	-1.59	-0.4
Сапада	+0.15	-0.69	+4.67	+7.27	+10.41	+11.70
USA	+0.55	+3.86	+28.57	+27.35	+25.88	+27.35
Mexico	-4.83	-4.11	-11 <i>.2</i> 3	-0.33	-23.77	-22.88
South Africa	-0.51	+1.00	+15.04	-6.41	+3.24	+4.44
WORLD INDEX	+0.60	+1.74	+8.74	+9.80	+10.94	+12.24

FT/S&P ACTUARIES WORLD INDICES

NATIONAL AND REGIONAL MARKETS Figures on parentheses show number of lines

Finland (25)

Norway (33)

USA (504).

Americas (651)

Europe (734)..... Nordic (139)..... Pacific Besin (831)

Europe Ex. UK (534

Singapore (44)..... South Africa (45).

# Ugine up 26% as buy-in intrigues Paris bourse

The Usinor Sacilor buy-in of Ugina, its stainless steel subsidiary, preoccupied PARIS, said Mr John Fordyce at Ferri occupancy rates for the sum-International. Ugine came back from suspension, rose FFr83 or 26 per cent to FFr400, and accounted for FFrL91bn of the market's FFr4.6bn turnover as the CAC-40 index fell 7.64 to 1,780.71.

Foreign investors stayed out of the market, highlighted over the weekend as a serious underperformer this year. There was some action in recently weak stocks, Alcatel picking up FFr8.50 at FFr422.60 following a drop from FFr489.70 after last Wednesday's shock results, and Eurotunnel recovering 35 centimes to FFr7.45 ahead of half-year sults on Friday. Axa, the insurer, with figures due on Thursday, rose FFr5.30 to

However, there were still some sad stories: Credit Foncier de France, which said that provisions risked being higher than operating profits in 1995, dropped another FFr8.30 to FFr95.50; and although the market had expected French September car sales to be disappointing, the 19.2 per cent drop in Renault's figures left shares FFr4 lower at

mer of 1995.

FRANKFURT soured a little in the afternoon and the Ibisindicated Dax index closed 4.26 lower at 2,197.01 ahead of today's holiday. Turnover dropped from DM5.7bn to only

On the day, Linde, the engineer, rose DM8.30 to DM876.30 after weakness last week, and after some weekend support for the stock; Schering fell DM1.85 to DM101.65, worried shout the temporary withdrawal of its x-ray contrast drug Isovist, although dealers also said that fund managers were liquidating Schering positions to move into the Merck

1995, noted Mr Eckhard Frahm Merck Finck in Düsseldorf, the Dax 30 had risen 3.8 per cent, although it fell 2.3 per cent in September alone. He termed this a consolidation phase, and noted the strength of technology stocks and utilities: SAP preferred rose 165 per cent in the first three quarters, Viag by 13.9 per cent and RWE

Over the first nine months of

Fourth quarter potential,

040	-				1	HE EUR	OPEAN	SERIES
Oct 2 Hourly changes	Open	11.30	12.00	12.30	13.00	14.00	15.00	Close
FT-SE Eurotrack 100 FT-SE Eurotrack 200	1420.89	1421.25	1421.51	1422.33 1520.79	1423.23 1521 72	1424.42 1522.03	1422.95 1522.39	1423.05 1524.47
		Sep 29	Sep 2	8 54	p 27	Sep 25	Sep	25
FT-SE Europreck 100 FT-SE Europreck 200		1412.87 1513.66	1405.4	2 15	13,48	1436.80 1528.62	1420 1516	1.31

on dollar recovery. The US currency's recent correction, he said, had been determined more by political tensions than by fundamentals.

MILAN, as so often, was held hack hy political wrangling, in spite of a run of encouraging corporate six-month reports. The Comit index eased 0.83 to 618.56 after the leaders of two key right wing parties threat-ened to withhold support for the 1996 budget proposals that Prime Minister Lamberto Dini takes to parliament today.

Gemina fell L36 to L746 in response to its first-half losses, news that it was under investigation, and as its directors talked to officials of the Consob bourse watchdog about the losses at its RCS publishing group. Ferruzzi was down L8 at L934 and Montedison was L13 lower at L1.104 as the Gemina

FT/S&P Par

Kusia Lumpur Compos

M\$2.94. The stock climbed

sharply in recent weeks on

Malaysian shares on the OTC

market still under pressure

SINGAPORE was weak, with

Jun

takeover speculation.

Source: FT Extel

said Mr Frahm, would depend losses raised questions about the merger plan.

Telecom Italia Mohile picked up L17 to L2,700 and Benetton L50 to L16,939 in response to their first-half results.

ZURICH closed higher with the help of hullish bond mar-kets, although volume was modest. The SMI index rose 24.2 to 3,039.0. Winterthur insurance's opti-

mistic forecast for its 1995 results fuelled enthusiasm in the whole sector. Winterthur rose SFr23 to SFr785, Zurich by SFr8 to SFr332, and Swiss Re SFr10 to SFr1,138 on its plans to buy 15 per cent of Deutsche Posthank, which dealers said would give the Swiss group 8 broad selling network.

Elsewhere, foreign bnying helped to boost Nestle, ahead SFr13 at SFr1,196, and Ciba, SFr13 higher at SFr936.

and Singapore shares seeing

more profit-taking. But a late

pick-up in Index stocks led the

Straits Times Industrial index

to close 0.16 firmer at 2.120.19.

while the UOB OTC index fell

SEOUL saw a broadly based

consolidation which, combined

with worries about slipping

customer deposits, pushed the

market lower in thin trading.

The composite index lost 6.86

st 975.79, with financials and

construction shares hit hard by

Brokers said a planned pub-lic offering of 8.9m shares by

Kookmin Bank at Won11,400

also depressed the market. The bank will sell the shares,

which were not taken up in a

rights issue last month, on

October 4 and 5, with payment

due on October 13. Kookmin

Bank fell Won200 to Won14,600.

margin account selling.

SFr6,200; the company announced a simplified share structure after the market

AMSTERDAM remained in the doldrums, with trading characterised by low volume and with light losses seen across the market. The AEX index finished 1.14 lower at

Philips lost 80 cents to Fl 77.20 after coming under early pressure linked to Fri-day's fall in technology stocks on Wall Street. Nutricia traded as high as

Fl 120.50 in response to further analysis upgrades before turn-ing back to finish 30 cents weaker on the day at Fl 120.50. Heidemij, the engineering consultancy which made its debut on the bourse, ended at F115.20, compared with a F115

NORDIC markets featured a cross border link in which Sweden's Euroc and Norway's Aker AS said that they were merging their cement and building materials units in a deal worth SKr4bn.

Aker also said that it had bought a 25 per cent stake in Euroc from the Finnish Partek for NKr2.1bn. The deal would create a company with an annual turnover of SKr17bn

and 11,000 employees, Euroc

STOCKHOLM'S Affare. världen index eased 7.8 to 1.834.5 in otherwise quiet conditions, and as Euroc jumped SKr7 to SKr165.

In OSLO, the total index was 0.58 higher at 737.35 as Aker's A shares finished NKr2 ahead at NKr97, after a day's high of NKr100.

HELSINKI'S Hex index advanced 15.31 to 2,191.83 as the market braced itself for more eight-month results after the recent mixed bunch, with Partek picking up FM1.50 to FM64.50.

Hopes of a return to political stability helped both ISTAN.
BUL and LISBON, the former gaining 3 per cent on hopes for ths formation of a new government and the latter taking its recovery to a fifth consecutive session following the socialist victory in Sunday's elections. Istanbul's composite index

veakened since September 20 by the coalition government's collapsa, rose 1,262.08 to 42,969.80; Lisbon's BTA index put on another 15.2 to 2.521.4, having tit a 1995 low of 2.580.7

Written and edited by William

the textile manufacturer Cer-

amco, down 30 cents at NZ\$1.95

after tonching NZ\$1.75. Ths

NZSE 40 index shed 5.23 to.

### **ASIA PACIFIC**

### Nikkei under pressure as Kuala Lumpur falls 1.7%

### Tokyo

A decline in the yen supported share prices in lacklustre early trading but unwinding of arbitrage positions pulled the Nikkei average down near the close, writes Robert Patton in

The 225 index ended 173.22 off at 17,739.84, adding to Friday's loss of 109.80. It slogged through a day of featureless trading with a high of 17,950.18 and a low of 17,683.84.

Many traders who had closed out positions at the end of the first half-year's business on Friday found little reason to jump back in. Institutional and foreign investors were also conspicuously absent and volume was estimated at just under 200m shares, down from Friday's 250m.

Only renewed dollar strength, boosted by reports that next Saturday's G7 meeting in Washington is likely to support a dollar rise to as high is rillo, shored up the mai during the morning and early afternoon. The strength of stocks in New York, where the Dow had touched a record peak on Friday, had no observable impact in Tokyo. The market had already started to weaken when waves of futures. led arbitrage selling pushed prices lower towards the close

The Topix indsx of all first section stocks, after adding 2.39 on Friday, fell 16.09 or 1.1 per cent to 1,422.07. Losers trounced gainers by 692 to 298. with 169 stocks unchanged, and the capital weighted Nikkei 300 slipped 3.2 to 268.45. in London the ISE/Nikkei 50 index put on 2.99 at 1,214.55. Real estate shares were the higgest losers, the sector drop-

ping 2.8 per cent. Mitsui Fudosan shed Y30 to Y1.160. Sumitomo Realty and Develop ment Y25 to Y670 and Mitsubi

shi Estate Y30 to Y1.180. High-technology and heavy electrical issues also weakened. Fujitsu receded Y20 to Y1,230, Hitachi Y20 to Y1,060 and NEC Y20 to Y1,360.

NTT, the subject of recent arguments over whether the former state telecommunications monopoly should be broken up, dipped Y5,000 to Y848,000. Other privatised stocks also fared poorly. East Japan Railway declined Y5,000

to Y485,000. Notable among the day's few winners were paper and pulp manufacturers. Nippon Paper Industries advanced Y14 to Y664 and Mitsubishi Paper Mills Y14 to Y591.

Pharmaceuticals also rose, with Takeda Chemical Industries up Y20 at Y1,400. In Osaka the OSE average eased 161.23 to 19.271.32 in volume of 21.9m shares.

Much of the region encoun tered selling pressure, and Bombay, Shanghai and Shen-zhen were closed for holidays. KUALA LUMPUR's stockbro-

kers were among major losers as recent poor market performance indicated that their earnings would be lower. The composite index ended 16.48 or 1.7 per cent down at 984.12 on further selling amid continuing worries about the overheating

Among the stockbrokers. Rashid Hussain fell 60 cents to M\$6.60 and TA Enterprise lost 24 cents at M\$3.30.

Promet fell heavily after confirmation of a shareholding change, dropping 16 cents to

### Subdued S Africa weaker

Johannesburg was lower in subdued activity, with falls led by blue chip industrial and gold mining issues. The over-all index shed 5.4 to 5,651.9 and industrials 15.0 to 7,098.2.

163.75 133.57 141.01 267.59 140.98 212.04

237.71

237.71 133.14 117.97 372.64 217.19 91.78 92.14 479.56

7600.21 188.60 63.57 201.14 243.21 260.66

140.93 328.90 153.90 158.71 210.48

239.12

164.17 255.34 102.71 125.94

232.55 138.59

226.10 129.51 156.35

137,48 133,66 144,71

112.84 106.93 208.84

196.69

277.74 184.55 56.41 109.32

386.94 807.94 191.92 58.32 175.24 274.77

260.17 111.72 237.08

181.74

144.35 218.26 117.08 128.35

172.57 129.41

129.09 141.54 163.05

94.17 101.77 199.82 237.08 134.20 159.21 101.67 120.62 140.13 166.25 149.11 178.90

115.88 112.68 121.98 95.11 90.13 176.04

165.79 107.79 99.44 234.10 155.56 47.55 92.14

309.29 661.02 161.77 49.15 147.71 231.60 219.30

136.33

121.87 183.97 98.68 108.20

169.23 183.23 142.87 135.38 264.43

249.03 161.91 149.38 351.65 233.67 71.42 138.41

130.41 464.59 1022.96 243.00 73.84 221.88 347.89 329.41 141.45

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182.77 278.34 148.23 162.53 218.50 163.85

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265.87

.375.42

78.83

.351.S7

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218.62

..158.25 ..173.51

Overall sentiment, however

275.11 171.13 178.37 191.17 157.79 165.51 167.74 134.99 140.26 399.17 277.40 399.17 248.46 185.34 206.83 65.60 65.45 65.60 164.82 136.95 160.25 587.20 398.18 562.07 2302.18 847.81 2902.16 260.99 205.92 210.73 85.49 69.56 72.77 243.79 192.92 198.84 414.25 313.94 380.37 369.22 281.06 312.87

115.79 113.28 122.67 94.21 80.62

107.71 99.82 235.29 155.81 47.62 91.88 309.87

875.41

231.60 220.94 94.29

196.36 134.69 102.59 140.15

137.78 121.69 181.83 98.48 106.09 147.05

109.10 181.37

108.78

283.05

106.43 140.85 207.07 210.80 150.74 231.21 126.49 131.85 117.22 117.25 278.29 371.25 162.98 215.72 55.93 90.69 107.80 91.88 364.04 476.45 783.19 7594.15 180.14 186.88 57.45 53.06 174.06 200.28 272.00 241.85

793.18 7594.15 190.14 188.89 57.45 63.06 174.06 200.28 272.00 241.85 269.48 279.86 110.74 139.63 230.61 323.15 158.15 152.30 158.62 209.76

213.30 251.35 115.66 102.97 128.94 125.21 172.70 283.03 128.12 137.37 188.51 224.85 127.69 128.78 140.71 158.04

193.27 181.12 121.59 142.60 160.70 194.25 185.92 178.18

183.72 162.76 181.79 183.72 142.81 162.76 213.30 251.35

173.52 178.33 233.93 179.46 268.72 178.73

Golds, knocked by a weak bullion price, lost 9.9 at 1,503.8.

184.04 172.47
180.08 168.74
184.88 182.73
149.75 140.34
144.04 134.99
280.25 262.83
258.15 241.93
171.20 180.44
158.65 148.06
373.94 352.43
247.05 232.06
75.89 70.93
146.04 138.96
482.69 481.72
1073.54 1006.05
257.34 241.18
77.76 72.87
235.58 220.77
368.12 344.99
351.15 329.11
148.87 1292.49
214.08 200.62
163.07 152.62
222.76 206.76

218.97 205.21 183.42 181.26 288.89 270.54 156.54 146.70 171.81 191.01 233.73 218.04 173.41 162.50 256.49 340.37 172.82 151.96

3.97 1.34 1.59 2.83 1.53 3.29 2.02 3.49 1.83 1.72 1.83 4.51 2.10 4.15 3.96 1.87 4.51 2.57 4.15 2.57 4.11 2.45

2,45 3,08 1,72 1,25 2,11 2,46 2,51 3,22 2,15 2,07 2,78

0.3 2,27

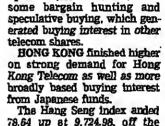
-0.2 0.9 1.8 0.3 0.8 -0.2 6.8 0.6 0.8

was propped up by good demand for Anglo American and De Beers. Angles gained R1 at R203.25, while De Beers continued its seesaw performance of the past two weeks and put on R1 at R99.75.

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Korea Mobile Telecom picked

up Won15,000 to Won500,000 on

The Hang Seng index anded 78.64 up at 9,724.98, off the day's high of almost 9,764, in turnover of HK\$3.3bn, compared with Friday's HK\$3bn. Hong Kong Telecom rose 20 cents to HK\$14.25 on purchas-

ing from the UK and US. New World moved ahead 10 cents to HK\$30.60 after reports that the group was bidding for a \$150m contract to redevelop Ho Chi Minh City airport.

WELLINGTON featured a profit-taking, having registered reduced profits forecast from an intraday high of Rp2,000.

2,107.43 in NZ\$25.5m turnover. . . KARACHI snded down on position-squaring on settle-ment day, the KSE 100 index losing 6.39 at 1,649.25, Dewan Salman Fibres, off sharply last week on rumours that staple fibre prices would be lowered. recovered 2 per cent at one stage on reports that the rumours were inaccurate, but ended Rs0.50 lower at Rs87.75. JAKARTA noted late profittaking in actively traded small issues, and the composite index fell 2.68 to 490.56, Intraco Penta, a small issue and consistently among the most heavily traded stocks, was up a

# Between the hype and hysteria are the facts.

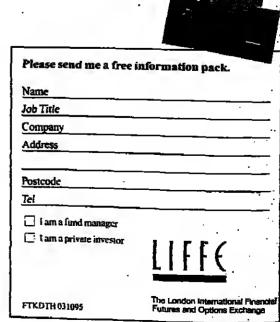
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Talks end 30-year standoff, but reinforce deadlock over IRA weapons

# Hope for Ireland talks fades

By John Murray Brown

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to and Michael Vorger

The prospect of all party talks taking place io Northern Ireland before the visit of President Bill Clinton in November appeared to be dashed yesterday hy Mr David Trimble, leader of the pro-British Ulster Unionists, the province's biggest party.

Mr Trimble indicated that moving to all party negotiations on Northern Ireland's future before the end of the vear was not possible without progress on the dacommissioning of paramilitary arms. He was speaking at a historic meating in Dublin with Mr John Bruton, prime minister of

The US administration is to send a business development mission this month to Northern Ireland and neighbouring counties in the Republic of Ireland, the US consulate in Belfast said yesterday. Fourteen companies led by Mr Charles Meissner, US assistant secretary of commerce for international economic policy are to take part. Mr Joe White, the US commercial representative in Belfast, said the mission was "part of a long-term process of . . . and building on the increasing interest of US firms in business opportunities in Northern Ireland".

the Republic of Ireland. It was the first time a unionist leader has met an Irish prime minister in almost 30 years. The meeting followed Mr Bruton's talks with Mr John Major, the British prime minister, and with Mr Gerry Adams, president of Sinn Féin, the political wing of the Irish

Republican Army.

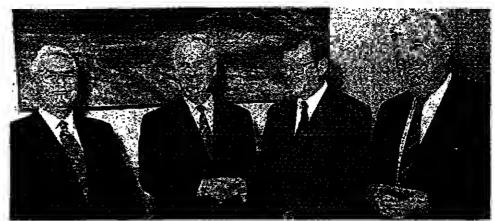
Mr Bruton sald last week that a breakthrough in the peace process was "tantalisingly close". Mr Clinton has indicated that he would like to see all-party talks under way hy the time he visited Belfast, Dublin and London at the end

While Mr Bruton played up the positive aspects of yester-

Officials in the government of the republic said Mr Trimble

day's talks with the Ulster Unionists, it was left to Mr Bertie Ahern, the republic's opposition leader, to suggest the difficulties that could prevent all-party talks before the Clinton visit. "That's too early on his agenda, and that is disappointing," Mr Ahern said after meeting Mr Trimble.

had given no hint of a change in his hardline position on the need for the "decommissioning" of IRA weapons, "What is inescapable is that people establish a commitment to exclusively peaceful means and its difficult to see how that can be done without addressing the weapons issne." Mr



John Bruton, prime minister of the Irish Repoblic (second from left), greets Ulster Unionist leader David Trimble. They are flanked by Ulster Unionist MPs Ken Maginnis and John Taylor

Trimble said. He appeared, bowever, to leave open the possibility that his party might accept something less than a physical decommissioning of arms before Sinn Fein could come in from the cold. Officials in the

republic are heartened by the fact that for the first time the Ulster Unionist party seems to have acknowledged that Northern Ireland's 25-year conflict cannot be solved by a recreation of the Stormont parliameot, which was replaced by

in 1972.

direct rule from Westminster except the hardline Democratic

Mr Bruton has now met all the Northern Ireland parties Unionists, who yesterday condemned Mr Trimble's meeting

Labour party Reform proposed for eastern Europe Lower football admission prices sought VAT cut urged for fuel

### Kinnock calls \*for social reform

By Robert Shrimsley in Brighton

Union transport commissioner, yesterday called for widespread and ambitious social reform to be considered by the 1996 inter-governmental conference. His comments, at a European Commission fringe meeting at the Labour conference, contrast with the government's wish to restrict the 1996 conference - the so-called Maastricht

II - to a narrow agenda. Mr John Major, the British prime minister, wants the IGC to concentrate on deregulation and repatriation of powers from Brussels and not on social initiatives. Mr Kinnock, however, said the conference should develop policies on employment, environment and

Mr Kinnock, a former leader of the Labour party, also called for a new approach to integrating the east European nations of the former communist bloc. He said that rather than wasting their time by inviting them to six-monthly lunches at the end of summits they should be invited to form new communipared the idea to the European

Mr Kinnock said the IGC must be more than simply a "5,000-mile service" if it was not to disappoint the people of

planned 1996 conference were ideas from an old era, before the European recession and the collapse of the Soviet bloc.
"Insufficient attention was

"I would therefore like the European Council to say that the Maastricht treaty was a child of its time. We have to be more ambitious and broader in

He said the economic realities were "too strong" for a narrow agenda devoted to administrative issues such as voting procedures. Social initiatives were needed.

Mr Tony Blair, leader of the opposition Labour party, will today unveil ambitious plans to "transform the country" based in large part on a national programme of investment in information technology. His keynote speech to the party's annual conference will attempt to answer criticisms that the party lacks a coherent and detailed policy programme, following a year in which the emphasis has been

proposals will be a programme to harness new technologies. based on the construction of an

information superhighway connected to all schools and hospitals and to which all homes could have access. A first step to fill the gaps in Labour's programme was made yesterday by the the shadow chancellor of the exchequer, Mr Gordon Brown, who said value added tax on fuel should

be cut from 8 per cent to 5 per

exchequer of just under £500m (\$775m).

Mr Brown pressed the government to make the reduction in November's Budget. He said that if the government failed to act, the reductioo would be made in the first year of a Labour government, so long as the ecocomic conditions were appropriate.

"The tax priority is to cut the tax on keeping warm for 10 million pensiooers and millions of low income families". he told delegates at the party

ters in the Conservative government. Mr Michael Jack. financial secretary to the Treasury, said Mr Brown had made 10 pledges with public speoding implications in his speech. including a commitment to sign the European Union social chapter and iotroduce a

national minimum wage. "Lahour will always spend more than the Conservatives, therefore they will always have to tax more than the Conserva-

said the party would actively work to bring

down turnstile prices. In a warning which pro-

voked disbetief in football boardrooms around

the former state-owned utility companies vesterday, when Mr Jack Cunningham, its trade and industry spokesman, criticised the current wave of hids for regional electricity compa-He said a Labour govern-

ment would make retrospective references of many of the authority it plans to create. As industry minister, he would not hesitate to force some of those companies taken over to

Camelot to oppose threat to curb profits

subject last month with the Labour leader, Mr Tony Blair. Lahour is drawing up detailed policies on the lottery, and is considering wbether there should be a limit on top prizes, and wbether there should be changes in bow money is distributed to good causes. Mr Smith said an underlying principle should be

cifically on that point". Mr

Branson also beld talks on the

### Arizona regulator demands answers

By Ralph Atkins, Insurance Correspondent

Lloyd's of London faced a fresh beadache in the US last night when regulators in Arizona said they were calling on the insurance market to answer charges of securities frand. Lloyd's said it would resist firmly the accusations that it bad misled Names individuals whose assets have traditionally supported the insurance market - when they joined the insurance market.

The case is unnsnal in involving an official regulator - the Arizona Corporation Commission. The commission's securities division said investing in Lloyd's had been deemed akin to investing in securities and therefore fell under its jurisdictioo.

If it is not satisfied with Lloyd's answers, the commission could foil the insurance market's efforts to collect

LLOYD'S OF LONDON debts locally from lossmaking Names as well force Lloyd's to pay financial penalties.

The commission said the charges followed complaints about Lloyd's and allegations that it knew about the flood of asbestosis claims. Mr Dee Harris, director of securities, said: "Eveo though they were Names were placed in syndicates underwriting asbestosis claims."

He added: "The unfortunate truth is that Lloyd's has the capacity to continue drawing oo investors' letters of credit and to make cash demands until the very last penny of their net worths is gone. We want to stop the pointless haemorrhaging of Arizona investors." Lloyd's has been given 10 days to respond.

 Pressure on Lloyd's of London to increase its £2.8bn offer to lossmaking and litigating Names intensified vesterday when the moderate Association of Lloyd's Members warned that the current figure Editorial Comment, Page 15 might be insufficient.

### Leader aims to end 'policy vacuum' jibes By Robert Peston, in Brighton on modernising the party's cent, at an annual cost to the conference. His plans were Labour kept up its attack on immediately attacked by minis-Underpinning many of his

Mr Neil Kinnock, European

Coal and Steel Community, the forerunner of the EU, and forecast East European communities on transport, energy and research which would work together and with the EU as a positive step towards member-

Europe. He said thoughts behind the Maastricht Treaty and the

given to the changed economic realities," he said.

our thoughts."

Camelot, the operator of the Football admission prices could be cut by a Labour government, in response to fears that National Lotthe average family is being priced oot of the tery, would try to oppose any national game. Labour is trying to hury its attempt by a

Chris Smith, the shadow beritage secretary. oot do so voluntarily. Labour govern-THE NATIONAL ment to hand LOTTERY over the runthe cost of raising it among the ning of the lottery to a non-

Camelot, which announced profit making organisation at pre-tax profits of £10.8m in the year to the end of March folthe end of the seven-year con-tract, George Parker and Raymond Snoddy write. The comlowing the National Lottery pany says the proportion of launch last November, wants to be able to apply for a new money it raises for charity is among the highest of lotteries licence when the present one runs out in 2001. Mr Chris throughout the world - and

the country, Mr Smith said Labour might "very interventionist past in other areas, but Mr reinctantly" force clubs to cut prices if they did Smith, shadow national heri-

> for-profit' basis, not as a mechanism for making very substantial profits."

tage secretary, said yesterday:
"The principle is that the lottery should be run on a 'not-

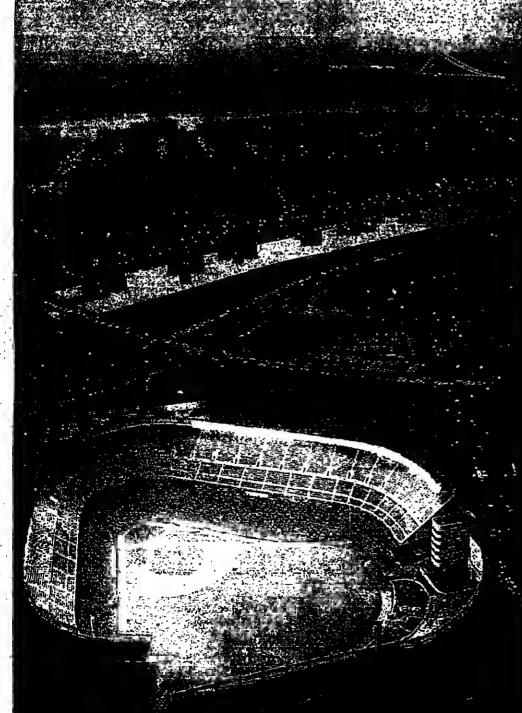
Labour's pledge might open the door for another bid by Mr Richard Branson's UK Lottery with Mr Branson. "but not spe-

Foundation, which promised to give all the proceeds to good causes - some of them of Mr Branson's choosing.

The Branson consortium was highly critical of the government's decision to award the contract to Camelot. Mr Smitb said he bad had discussions

that Britain's lottery should not be run on a commercial. profit-making basis.





Can you light up the sky without clouding the air?

Natural gas - affordable, safe and available - is an increasingly popular choice for driving turbines that generate electrical power all over the world. Although it

burns relatively cleanly, combustion does produce nitrogen oxide, implicated in acid rain. Abatement techniques have reduced emissions, but heightened awareness among the industrial nations continues to generate tighter legislative controls and the development of ecologically-sound power plaots.

Conventional methods of controlling emissions are costly and dampen efficiency. However, ABB research has now developed a way to hurn them off. It is a total solution, reducing pollutants while maintaining efficiency, thus consuming less fossil fuel. ABB has installed its inoovative "EV-burner" in the Midland Cogeneration Venture, a joint project to produce power for the Dow Chemical Company and the State of Michigan, USA. At full power load, this plant is now producing emission levels well below the world's most stringent requirements.

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clouding the sky.

Cut-price apples alleged to have been diverted from countries opposing Mururoa tests

# Growers accuse France of 'dumping'

Cheap Frencb apples are being "dumped" on the UK market to compensate for falling sales in Germany and Scandinavia, say English growers. Those are regions where boycotts have followed France's nuclear tests in the Pacific.

English Apples and Pears. the industry association, aims to alert the public to the threat to the English Cox from French Golden Delicious retailing helow traditional market

French Golden Delicious are on offer in some British supermarkets for as little as 24 pence a pound (83c a kg). nearly half the normal selling price. Cox apples grown in Britain are on sale at 59 pence a pound. "Growers are fearful that shoppers who are nor-mally loyal to English fruit will be lured into hnying cheap imports," said English Apples

"Thousanda of tonnes of underpriced French apples are

and Pears.

appear in an open letter in flooding into the UK as other British newapapers today. European markets dry up in the aftermath of French nuclear testing," said Mr David Browning, chairman of English Apples and Pears. "This dumping policy is undermining the stability of the market and the long-term viability of English apple growing."

Golden Delicious prices in English growers believe that German and Scandinavian hoyrecent weeks, sald: "The French have had problems sellcotts of French produce have ing elsewhere in Europe and therefore there are more apples forced French growers to sell to the UK, where the market is available than usual, and availreported to have heen unaffected by public opposition to

Mr Malcolm Schofield, man-

**New Orders** 

the nuclear tests. J. Sainsbury.

the British food retail chain,

confirmed that "The Mururoa

tests have had no effect on our

sales in the UK, but we under-

stand that that has not been

the case in either Germany or

Tesco, which has lowered

Scandinavia.

aging director of Enfru, the apple marketing company, cal-culates that French apples are being sold at less than the cost

of production. French Golden Delicious cost 59 pence a pound at Sains-bury's, 39 pence at Tesco and have been advertised at 29 pence at Safeway and 24 pence at Somerfield.

The fall in prices for Golden Delicious coincides with the first few weeks of the new season for the English Cox, which ripens to its hest eating quality at the beginning of October.

### Index sinks to three-year low

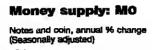
By Gillian Tett, conomics Correspondent

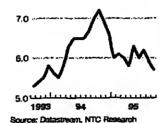
The purchasing managers' index, which surveys husiness activity, fell last month to its lowest level for three years. The data fuelled suspicioos that manufacturing output has eased in recent months.

The survey of some 300 managers suggested that a lower level of demand and orders is prompting many companies to sell off stock. Nevertheless, with the survey suggesting that output is still rising, most economists continue to believe that the data simply point to a brief "destocking" pause in growth, rather than a more

sures in industry are easing. this did not entirely allay City of London fears that inflationary pressures could reappear next year if demand recovers.

Measured overall, the purchasing managers' index. which consists of data on stocks, output, demand, delivery times and employment, fell to a seasonally adjusted 50.5 per cent in September, Since any figure ahove 50 per cent indicates month-on-month growth, the data suggested that manufacturing activity had expanded slightly between August and September. However, the rate of expansion was the slowest seen for three years, and a breakdown of the serious husiness slowdown.
Although the survey suggested that some price presum for the survey with company destocking.





The level of purchases hy companies from other companies eased. The level of new orders reported by companies fell back between August and September. Overall output was reported to have risen slightly between August and Septem-

However, the time taken for suppliers to meet orders, for example, fell back last month, suggesting that there were

now fewer bottlenecks in manufacturing. Meanwhile, weaker demand also appeared to be triggering reduced price pressure. The price index fell back to its lowest level for 18 months. With these reduced price expectations matched by other surveys from the Confederation of British Industry -

that inflationary pressures Mr David Hillier, UK economist with NatWest Markets said; "Manufacturers are using

sensible pricing policy to shift unsold stock." Others were more pessimis-tic. Ms Helen MacFarlane of

brokers Hoare Govett said; "There remain significant pent up price pressures further

### and echoed in recent official factory price data - some econ-omists yesterday concluded

By Daniel Green in London

Rules for pricing medicines may change next year to encourage pharmaceuticals companies to launch better new drugs, Mr Stephen Dorrell, bealth secretary, said yesterday. "Pricing structures should be used imaginatively to encourage the emergence of genuinely new developments," Mr Dorrell said at a conference in London sponsored by the state bealth service.

A change to favour one kind of drug with the government. In the US, which accounts for 40 per cent of world drugs over another would be a radical

departure from the current system, sales, pricing is unregulated. Mr Dorrell called the pharmaceutical pricing regulatory scheme (PPRS), which has been in place since the 1950s. Under the PPRS drug pricing is regulated only indirectly by the government. Drug

companies can price their products so as to make a maximum return on capital invested of between 17 and 21 per cent. drug prices set through negotiations

said the British government was committed to a review of the PPRS over the next 12 months."

The PPRS was last reviewed in 1993, when an across-the-board 21/2 per cent price cut was agreed with the pharmaceuticals industry. If drugs pricing were reformed to offer higher rewards to breakthrough drugs, the UK the world to adopt such a system.

The nearest equivalent is in Japan, where drugs have a high initial price

Rules for pricing medicines may change followed by a series of compulsory price cuts as the drug gets older.

The Japanese system has been criticised for encouraging drugs companies to launch new products at inflated prices in the knowledge that the price would soon be forced lower.

Mr Dorrell said the pharmaceuticals industry and other healthcare businesses had a common interest with the Department of Health in ensuring that new products were aimed at treating people who were not yet well

UK NEWS DIGEST

### Ex-carmaker makes tourist Skills of graduates submarines

A former British motor manufacturer plans to exploit a growing niche in the tourist industry - submarines. Marlin, which once produced two-seater sports cars, has developed a diesel-electric submarine designed to bring under-water transport to more resorts around the world. Battery-powered submarines already serve several holiday spots, mainly in the Caribbean and US, but Marlin claims to have designed the first submarine aimed at the tourist trade capable of operating from quayside locations rather than offshore platforms, and able to reach depths of 300 metres.

"Traditional tourist submarines are ponderous and costly to operate," said Mr Paul Moorhouse, Marlin's senior designer. "But our model promises all the capabilities of military boats." The company, funded partly by Midland Bank, said its vessels would cost about £1.1m (\$1.7m) against the £3m average cost for existing vessels. Until now. Marlin has concentrated on specialist midget submersibles, one of which is in service with the Swedish navy and another with Sea Shepherds, the Califor-

nian whale conservation group.

Tim Burt, Companies Staff

### Talking store shelves beckon cat owners

Spillers, the petfood maker, has taken to whispering sweet nothings in shoppers' ears. "Indulge your loved one with a can of new Spillers Purrfect; hut remember it's just for cats," says a disembodied voice to anybody coming near cans of its cat food in some Somerfield supermarkets. Using the first "talking shelves" in British supermarkets is one half of a two-pronged attack by Spillers, a division of Dalgety, for its "higgest new prod-uct launch in 10 years," says Mr Richard Hodg-son, Purrfect's senior hrand manager.

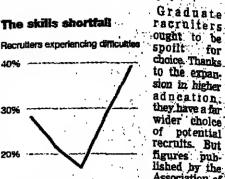
A man eating cat food is the other prong launched in television advertisements last night. "We have deliberately used humour to show that we in no way condone human consumption of cat food," Mr Hodgson added. The actor ate no Purrfect for the ads, he admitted. The idea of the ads is to show that cats, like humans, are moving to lighter, more varied meals, Purtfect recipes include salmon in a prawn jelly and rabbit in a game sauce.

The talking device, a battery powered chip coupled to a speaker but disguised behind a picture of a Purrfect can, was developed by Instore Marketing Technologies, a subsidiary of PVP of Belgium, Already tried on some 15 products in mainland Europe ranging from fruit-flavoured yoghurt drinks to toilet paper. the devices generated on average a three-fold increase in sales, said Mr Jon Cooper of Instore's UK operation. The Purriect message

is triggered when a shopper comes within 4m is triggered when a shopper comes which in of it. Rented from Instore at £170 (\$250) per device per store for 10 days, the equipment is more effective in terms of cost and psychology than "personality girls", Mr Cooper says.

Roderick Oram, Consumer Industries Editor

inadequate for recruiters



recruits. But figures pub-lished by the Association of Graduate Recrnitera; which repre-sents the 270

biggest recruiters, show that their problems have increased over the past five years. Almost 40 per cent say they had difficulties recruiting graduates with sufficient transfer able skills this year. Today, the association will publish a report which recommends how universities should change to provide graduates with the skills they need. However, the institute of Employment Studies suggests the problem is less serious than it appears. In its annual report, the institute suggests that skin-ing the recession recruiters targeted their recruitment more at specific institutions. This meant they became more selective, and ensured they took the "best" graduates John Authers, Public Policy Stoff

### Travel trade bewails very tough year'

The president of the Association of British Travel Agents said yesterday he despend at the "suicidal" tactics employed by the travel industry "where the only result is a victory for the consumer". Mr Colin Trigger said the UK travel market was characterised by "price discounting, invisible margins, insecurity of employment and tight company finances. Consumers were being confused by the many special offers and were being spoilt for years to come, he said at Abta's annual conference at the South African resort of Sun City.

The travails of the sector were underlined yesterday when First Choice, the UK's third largest tour operator, warned that its profits would fall to just £1m this year after a "dreadful August. Its shares fell sharply as it launched a £44.1m rights issue, which will be used to finance three acquisitions and to bolster the balance sheet. In Sun City, Mr Warren Sandral, chairman of Ahta's Tour Operators Council, said it had been a "very tough year" for the travel industry and could get tougher. It had expected growth of 10 per cent but the market ended up flat. Scheherazode Daneshkhu, Sun City

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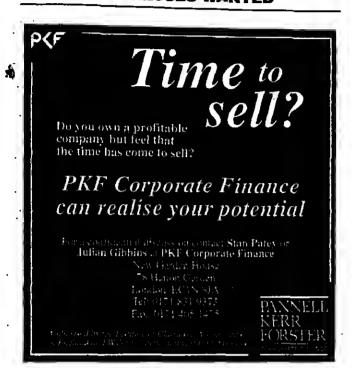
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for involving the private and voluntary sectors in the

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long term health problems or disabilities which put

them at e significant disadvantage in finding or

keeping a job. This also involves working directly

with employers to assist the recruitment or

retention of individuals and to promote the

This follows the Secretary of State for

Employment's announcement in March 1995 that,

following e Prior Options Review, he was asking

the Employment Service to work up proposals for a

market test of its disability services in one or two

Regions. The Employment Service decided to test

the external market for these services in its North

The Employment Service currently provides

disability services throughout the country by means

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Work oo testing the external market is still at a very

early stage and no final decisions have been taken

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Employment Service wishes to invite any

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Japan has long been the world leader in the use of rohots, and the Japanese car industry has been the epitome of

ROBOTICS
AT WORK

Toyota, the car manufacturer, unveiled its latest production line where the number of robots had try has been the epitome of advanced automation. So when last year unveiled its latest production the number of robots had

observers started to wonder if the tide had turned.

Technological progress, even in Japan, is not immune from economic influences. The poor state of the economy has hampered many companies' investment in automation, and cut

their budgets for research.

Robot production in Japan peaked in 1991, and dropped very sharply in 1992 as the country went into recessiou. The trend is now upwards again, but the 1991 level has not yet been regained.

Of course, some development has continued, even through the recession. Shozo Nimura, a director of Fuji Machine, one of Japan's five leading robot manufacturers, says that the recent demand has been for robots capable of higher speed and greater accuracy. Fuji mainly makes robots for use in the semiconductor industry. Two years ago, a Fuji robot could mount one chip every 0.2 seconds; it now takes only 0.09 secs, and customers are demanding still faster robots.

demanding still laster robots.

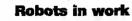
Matsushita - the market leader - has responded to the increasing use of robots in the semiconductor and electronics industries. One of its current areas of research is "clean room" robots. Traditional robots produce waste that can cause damage during the production of semiconductors and LCDs, but Matsushita has reduced waste levels significantly and is aiming for 100 per

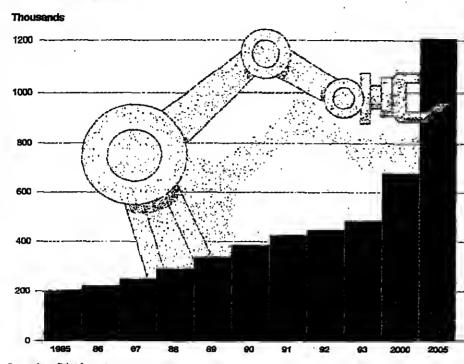
cent waste-free robots.

Recently, the rapid "hollowing out" of Japanese manufac-

Japanese researchers are developing robots for use outside the usual factory environment, writes Bethan Hutton

# Break with tradition





turing industry - shifting production ahroad to areas of low labour costs - has cut demand from core industrial users, such as car makers and electronics companies. But Toyota says there is a place for robots even in low-cost countries, because of the consistent quality levels that automation can bring

Kanji Yonemoto, executive director of the Japan Rohot Association (JARA), says that even in the domestic Japanese automobile industry, the use of robots has not yet reached saturation point. "Of course there is work done by humans which cannot be done by robots, but with the development of technology, perhaps robuts can replace humans in those areas as well," he says.

In times of rising unemployment, however, mention of robots replacing human workers can cause resentment. Perhaps that is why Toyota increasingly talks of its robots

as supporting human employees and helping to make them more efficient, rather than directly replacing them.

Tadaaki Jagawa, general manager of Toyota's Tahara plant in central Japan, says the company is pursuing two ideas in its use of rohotics. "One is that we would like the most sophisticated multifunction rohots, which can work the same as human beings. But on the other hand, we want other rohots which do not

replace human beings and for workers, but which can support and assist human beings.
"We would like to develop may

more 'assisting' robots for the workers, so that workers can improve their productivity, and can have easier working conditions. When we were using high-function, more sophisticated robotles, people had a hard time, because maintenance was very difficult. The workers were assisting the robots." Jagawe says.

worker-centred approach was nne of the concepts behind Toyota's new pro-doction line at Motomachi, outside Tokyo. But economic and management factors were also involved in the decision to keep automation levels low: managers were not sure which models would eventually he produced at that plant, and so wanted to maintain maximum flexibility by not installing model-specific automation. Also, plans for the plant were made at the depth of the recession when investment was being sharply reduced.

The rush towards antomation in the 1980s was spurred on by the fear of labour shortages. Now, unemployment in Japan is increasing, but the assumption is still that once the current economic difficulties have passed, demographics mean that the trend towards labour shortages will resume, and robots will be used to supplement increasingly scarce human resources.

That also means that more applications for robotics will he found outside the traditional industrial processes. JARA was until recently called

the Japan Industrial Robot Association: the name-change illustrates the growing importance of non-industrial robots. Yonemoto of JARA sees the most fertile fields for development as medical and social welfare, nuclear power, ocean exploitation, agriculture and forestry, construction and transport.

In trying to develop robots for use outside a factory environment, researchers have heen bypassing humanoid or machine-like robots and looking at nature for inspiration. NEC has just released a snake-like robot which can worm its way into tight spaces, such as collapsed buildings, or nuclear power stations, where more conventionally-designed robots could not go.

One of the most futuristic projects is an industry-wide search project into micromachines, led by the Ministry of International Trade and Industry. Micromachines are con ceived as highly miniaturised robots - a few millimetres across or less - which could heve applications in many industries, from nuclear power plants to medicine. For example, micro-robots could be inserted into human arteries to carry ont micro-surgery in inaccessible places, or they could be sent into machines to carry out repair or maintenance work without having to dismantle the entire structure.

More than 30 companies are involved in the project, each carrying out research into a specific detail, such as miniaturised power snpplies or means of propelling tiny robots, and sharing their findings with the group.

ower-tech robots are already used in some of the larger hospitals in Japan, for delivering meals and medication round the wards. But robots that interact directly with patients - for example, administering medicine or handling bedpans - are still some way in the future.

Robots are also finding their place in service industries. Facfory style sushi restaurants have long been familiar in Japan: customers sit at a bar and choose from plates passing before them on a conveyor belt. Usually, the sushi is made in the traditional way - shaped hy hand hy a chef with long and expensive years of training hehind him. But now some of the work may have been done by a robot sushi chef, which can pat the balls of rice into shape in a deft imitation of the human chef's art. However, a robot has not yet heen invented that can transform a raw fish into perfect artistic slices to put on top of the rice.

slices to put on top of the rice.

If robots are being welcomed into Japanese kitchens, hospitals, building sites, even police stations, one car factory with fewer robots does not spell doom for the Industry. The ardour may have been cooled by the recent economic climate, but the long Japanese love-affair with robots is far from over. Jagawa is firm: "We have never given up our commitment to using robots,"

Next month the series looks of robots in the lab.

# Short sharp shock for buses

Anna Kochan on an explosive process for cleaning air filters

xplosion technology is enabling air filters from trucks and buses to be recycled instead of thrown away.

A short sharp shock, carefully epplied, removes all the dirt and dust that has accumulated in the filter, increasing its life as much as six-fuld, according to Seditec, which developed the process.

Seditec, an Israeli company, has won its first contract for the Filter Impulse Cleaning System, which will recycle 10,000 filters a year for the Dan Bus Corporation in Tel Aviv.

The technology could significantly cut running costs for vehicles that use diesel fuel, such as trucks and huses. Filters on these vehicles clog up quickly and have to be replaced every few months hecause the air entering the comhustion chamber of the engine must be as clean as possible to reduce fuel consumption and engine wear.

Existing methods of filter recycling are so expensive or environmentally unfriendly that most filters are thrown away, says Elik Cohen, Seditec's marketing director.

In the Seditec process, an explosion is created hy hurning a mixture of air and gas. The innovation lies in controlling all the parameters of the combustion process to create an ultra-short high amplitude shock wave. This is then used to apply a uniform force to the filter to dislodge the dirt particles without damaging the filter paper. The particles are

sucked eway by e vacuum.
The \$75,000 (£48,400)
Seditec machine processes
one filter every four minutes,
although this is likely to
increase, says Cohen. The
operator places dirty filters
one et a time in the machine,
closes the door, initiates the
explosion, and removes the
clean filter.

A nearer filter can undergo

A paper filter can undergo at least six shock treatments without suffering irreparable damage. The number of times that a filter has to be replaced depends on the environment that it works in but e Dan hus, operating in rural areas, would need to have its filter changed four times a year. According to Cohen, any hus company operating a fleet of at least 200 vehicles could justify numbering the machine.

purchasing the machine.
At present the technology applies only to paper filters but development for other materials is being carried out. The technology has been patented in the US and patents for the rest of the world have been filed.

Recognising the value of reducing volumes of waste in the country, the Israeli ministry for the environment offers Israeli companies a 35 per cent rehate on the price of the Seditec machine.

It is not only bus companies that may be interested. Air filters are also used in tanks, bulldozers, and gas turbines. The air filter in an army vehicle is cleaved daily and replaced once a week, while a truck working in a cement quarry needs to have its filter replaced every two weeks.

Another industrial application is the unblocking of storage silos. For firee years prior to Seditec's intervention, three of the sir outlets of e cement silo et a lime factory in Israel were permanently blocked, significantly reducing production.

Seditec's solution was a controlled explosion designed to create a shock wave followed by a pressure wave which travels down the wall of the silo, loosening the material and eucouraging it

to flow again.

The technology is suitable for cement, time, concrete production and mining operations all of which make use of inert bulk materials in large quantities. The only other uption is to vibrate the silo, but this can cause structural damage.

Controlled symbologies can

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MALIMORE

Controlled explosions can also be used to control polintion emissions. Electricity companies which nurn coal, for example. cannot release smoke into the atmosphere without treating it. The standard approach is to use static electricity to trap particles on electrodes that are built into the chimney walls. However, as the electrode hecomes thick with particles, the electric field weakens and the process is no longer

The removal of this particle build-up is, according to Cohen, an ideal application for Seditec because the explosions used to dislodge the deposit are generated in direct relation to its thickness. This is sensors measuring polintion levels in the air entering and leaving the chimney. Such an approach improves air filtration by 20 per cent in terms of particle size and quantity of particles released, he claims. It is also cheaper than the classic solution in which a mechanical hammer repeatedly taps the electrode. irrespective of the amount of

# On Friday, October 6 some of the world's most astute economic commentators present their views to a select audience.

Also taking place is the annual IMF meeting in Washington.

FT World Economy & Finance Survey.

Financial Times.
World Business Newspaper.

### CONTRACTS & TENDERS





LLAMADO A LICITACIÓN

FECHA: 03.10.1995 LICITACIÓN Nº 050 / 95 -DT

- 1. El Estado do Paraná ha recibido del Banco Internecionel de Raconstrucción y Fomento (en edelente denominedo "BIRF") un préstamo pere sufragar percialmente el costo del Programa da Saneamento Ambientel de Região Metropolitane da Curitiba PROSAM y se pravé que parte de los tondos de este préstamo se splicará a pagoe elegibles conforme el contrato da ampliación de los sistemes da saneemiento de les ciudedes de Curitiba, Araucaria, Pinhais y São José dos Pinheie. Podrán participar en le licitación todos los licitantes de los países que reúnan los requisitos de sisgibilidad que se estipulan en las Normee da Adquisicionas del BIRF.
- 2. La Companhia de Saneamanto do Parans SANEPAR, ejacutora dal subprograma PRA - 03 del PROSAM invita a los licitentes a prasentar ofertas para le amplieción da los sistemas de alcantanilado y construcción de cuatro plantas da tralamiento da effuentes cloecales de las ciudades de Curitiba, Araucária, Pinhaie y São José dos Pinhaie, en el plazo de 720 días calendano.
- 3. Loe licitantea podrán edquirir loe documentos de licitacido an la Divisido de Liciteción contra al pago de un importe no reembolsable de R\$ 500,00 (Quinientos reales), por lote, o su equivalente en moneda de libre convertibilidad. Los interesados tembién podrán obtener más informaciones an la dirección qua sa indica en al numeral 4.
- 4. Las ofertas sarán ahiertas en presencia de los licitantes que deseen asistir, a lae 10:00 hores del die 05:12.1995, en SANEPAR. Rua Enganheiros Rebouças, nº 1376 - Cuntiba / Paraná / Brasil

5. La olarta deberá astar ecompañada de una garantie de propueeta de:

Lote 01 R\$ 500.000,00; Lote 02 R\$ 400.000,00; Lote 03 R\$ 520.000,00; Lote 04 R\$ 400.000,00; Lote 05 R\$ 660.000,00;

o un monto aquivalente en moneda de libre convartibilidad, y debará entregarse en Cuntibe. Rua Engenheiros Rebouças, nº 1378, a la Comisión de Licitación, s más terdar a las 10:00 horas del 05.12.95, oportunidad que les ofertas se ebrirán en presencia de los representantes de los ticitantes

EL DIRECTORIO

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But on a

# Great artist with vision

Without Cézanne there may not have been any modern painting at all, argues William Packer

rather moving exhibition, tha Réunion des musées nationnux continues its magisterial series of studies of the work of the greatest masters of French painting. And not least remarkable is that while this is the first full retrospective in a great public gallery to he given to Cezanne since 1936, it is by no means the daunting block-buster we might have expected. Indeed, though the catalogue could break your foot, at a mere 177 works occupying just two floors of the Grand Palais, the show is on the smaller side for one of its importance, and as well-chosen as could be wished.

But why so important? The truth is, and it is a truth that becomes more apparent with every fresh view we take of Cezanne, that of all tha painters of that early, heroic phase of modern painting, without him there might well have been no modern painting at all. He is the link. In his formative years in the 1860s, we see him standing with Manet and Courbet looking back to the great humanist tradition of figurative painting in the west. And then we find him, if only for a comparatively short time, au courant with his Impressionist peers in the 1870s, with Sisley, Monet and Pissarro painting along the Seine and the valley of the Oise, to the north

Bnt even than, even in such works as "The House of the Hanged Man" at Auvers-sur-Oise of 1873, or his view across the roofs of that village, again of 1873, we find him moving beyond impressionism and immediate sensation into his own world of form and structure and the study and control of the pictorial space. With his increasing commitment to his native Provence from the later 1870s, with its clearer light and sharper definition, his palette becomes at once heightened and more simple. The pictorial integrity.

ith this remark-able, beautiful and the formal rigour and austerity that follow upon such clarity and simfollow upon such clarity and sim-plicity of vision, are what combine

in his unique gift and influence.

The direct line on through Cubism to Constructivism, and on even to latterday minimalist abstraction, is well-attested and easy enough to trace. What is, or rather was less obvious, is the degree to which Expressionism, that other apparently opposing formal strain in modernist painting, is also forever in debt to him. For the truth which Cézanne demonstrates through his own stubborn, obsessive practice is that without form and structure and control there can be no expres-aion, no art. Matisse realised as much as a young man when he acquired a small painting in the "Bathers" series to which Cezanne returned thronghout his career. Matisse kept it beside him for more than 30 years as constant encouragement and consolation in his own moments of creative doubt. Dating from about 1880, it is of three imagined nude figures beneath an arch of trees, and small as it is, we can see in the simplicity of the backs they turn upon us rather more of a hint at the monumental grandeur of Matisse's own great reliefs of women'a backs, more than life-size and cast in bronze. Why should this show be so mov-

ing? The answer can only lie in something of what it tells us of the human spirit. For Cézanne was never an easy painter. Exquisitely beautiful though so many of the works actually are, we seldom gasp at their fluency and facility. Often they are downright awkward, and always there is the sense that they have been fought for and only then achieved. Ironically enough, pace Matisse, this is nowhere more apparent than in that extended Bathers" series: only the two huge canvases, circa 1900, the largest he ever made and which end this show, achieve any full resolution.

Cézanne will alway be an inspiration to all true painters: 'Garçon couché'. 1890, in the exhibition at the Grand Palais

upon which Cézanne worked from the imagination rather than from direct observation. It is not that he had no academic training, and indeed his early life-drawings are more than adequate: rather it is that he seems to have been one of those artists who need the model always before them. And when the model is there, whether in the rapid expressionist studies he made in the shadow of Manet in the 1860s or the studied tranquility of the later portraits, he is marvellous. Other painters have painted their wives repeatedly, but few so often and

with such evident and deep affec-

tion. He is surely one of the great masters not of the nude, hut of the figure sitting before him, and of the head most of all.

But really it is as the painter of space, and of objects related within that space, that he is greatest of all. His wife sits in the chair before him, a curtain falling beside her, or a door behind: the apples are spread out across the cloth which falls towards us over the table's edge, a jug behind and space beyond - a world in miniature. And always there is the landscape, the stream and the bridge, the house, the trees. the rocks, and away in the distance

at an infinite space the great height of the mountain of Sainte-Victoire, again and again and for ever.

If Cezanne is a great artist, and his work so moving, it is for the affirmation that he makes of the importance of art to the human spirit, and of painting above all in its lasting validity as a vehicle for its expression. In these days, when painting from the visible world is so glibly written off as an irrelevance, it is an affirmation of profound importance. He died in 1906, and towards the end of his life his fellows recognised him as their mas-ter. So long as there are true painters, they too will turn to Cezanne. For his part, we should allow him the last word as to how he saw himself in the great scheme of things: "on ne se substitue pas au passé, on y o ajoute seulement un nouveou choinon". One does not substitute oneself for the past; one only adds another link to the chain - and Amen to that

Cézanne - an tournant de la modernite: Grand Palais, Paris, until Janpary 7, then to London and Philadelphia: sponsored in Paris hy LVMH/Moet Hennessy, Louis Vmtton and Christian Dior.

arren Mitchell neither Theatre is, nor tries to he, remotely monarchical in the title role of Jude Kelly's strange production. He is clearly in his dotage from the first, affectionately cuffing courtiers and coldly groping his daughters when he talks of their issue. This Lear is, in effect, already enjoying power without responsibility; it is his armed camp mingles ornate pike-

notion to formalise and extend this state of affairs which sets off the calamitous chain of events. In his bush-hat and sandals. Mitchell's Lear could as easily have been a cracked mogul as a king, a Howard Hughes-like figure whose subordinates either dare not speak plainly to him or incur his volcanic wrath if they do. The corporate image is stronger in the early scenes of the Gloncester plot; Trevor Baxter's impeccably groomed, pinstriped Earl, Damien Goodwin's bookish, adolescent Edmund plotting in his bedsit and Robert Bowman's Edgar with his jeans and brandy snifters recall the atmosphere of Hamlet Goes Business. By Act III, however, all initial airs are

Gloucester enter an outside world which is far crazier than the court. Kelly's recklessly anachronistic setting of the play (in Paul Andrews' design) is both one of the major strengths and weaknesses of the production. These events could be taking place in any era; Act Vs

dispelled as both Lear and

# Mitchell's 'Lear'

For the most part these works remain a problem, as do all those

shafts with chemical warfare suits, locating the battlefield somewhere between the worlds of Mad Max and Dr Who. Yet elements frequently seem to possess a bewil-dering hidden symbolism - why, for instance, does Edmund have a set of twinkling sea-mines strung from the ceiling of his room? Why does the disguised Kent resemble a New Age Maori? And might it not be a tad insensitive to put a practical rainstorm on stage while Yorkshire Water has a drought order in force? There are too many ideas on display, too many even for this richest of Shakespearian plays.

However, many touches are inspired. Cordelia's expressions of trepidation before her testament of filial love are cut, allowing her to become neither a hlunt-speaking angel nor a "feisty" girl, but simply matter of fact and resolute throughout Maria Miles' fine characterisation. The Bedlam heggars whom Edgar impersonates are constant presences on the road to Dover, helping him to guide the hlind Gloucester and even supplying a

mattress to break the latter's fall. Damien Goodwin handles Edmund's transition well, from venomous dreamer to adulterous, mar-tial demon. Tricia Kelly and Alexandra Gilbreath as Goneril and Regan show real horror at the love contest and their father's subsequent asinine revelry, although their continuing sisterly solicitude even as one poisons the other is more puzzling. Toby Jones is a mightily impressive Fool, evidently accomplished at the capers and gags he performs hut who can no longer be bothered with pretending to be stupidly merry in the face of Lear's much greater foolishness and genuine madness, and finally hangs himself on stage.

Which brings us back to Mitchell. This mad Lear, after his initial outburst on the heath does not vie with the storm in bluster, but subsides into rapid monomaniacal mumhling. Despite occasional inaudibility, it is more chilling for being less theatrical, and adds poignancy to his correspondingly low key recovery and death. The final scene like-wise restores full lucidity to a production which frequently frustrates. hut never loses attention.

Ian Shuttleworth

West Yorkshire Playhouse until October 28 (0113 244211), then Hackney Empire from November 9 -December 3 (0181 985 2424).

### Theatre/Sarah Hemming

### Return of 'Three Tall Women'

ast week was certainly ladies' week in the theatre. At the Ollvier Judi Dench, Patricia Hodge and Sian Phillips glittered in A Little Night Music; in Chichester, Lauren Bacall graced the stage in The Visit. And Dame Maggie Smith sailed back into the West End to reprise her award winning performance as the aged crone at the centre of Edward Albee's Three Tall Women. And a splendid performance It is.

milking Albee's rather slight play for every drop of nourishment. For while it is cleverly constructed, witty and insightful, it is also twice as long as it needs to be.

Albee has made no secret that the play is a reckoning with his own painful relationship with his adoptive mother. The first portrays a cantankerous, senile nooagenarian. who rambles on in endless circular stories and rages at everyone who comes near her, while a hapless helper and young female lawyer struggle to keep a foothold in her slithering version of reality. But the second act offers reconcil-

lation as Alhee hlows open the play's structure and the three women on stage become three versions of the one person - in youth.

middle and old age. Perhaps we are in her stroke-seized mind or per-haps in some alternative timescape, but this clever device enables the characters to spread the whole life with Albee, at a respect for the woman's sheer ability and determination to survive.

The play is far more than a personal laying of ghosts, however: Albee transforms his subject into a reflection on age and unfairness and, as in Who's Afraid of Virginia Woolf, celebrates his character's tenacity in the face of the awfulness of life. in the programme he writes that "writers have the schizophrenic ability to both participate in their lives and, at the same time, observe themselves participating in their lives" and one cannot help feeling that this play, in its structure at least, is just as much about his own position as a writer as it is about his mother, Interestingly, it is only in the passages of the play that deal with the woman's son that the transformation does not work and hitterness curdles the art: these come over as clumsy and mawkish.
The play is sophisticated, obser-

vant and grimly funny, playing on our common fears of ageing and

decay. But It is also, by definition, static, repetitive and restricted, con-structed more like a sung canon than a drama. It takes a disciplined and expertly phrased production to out before us, so we arrive, along carry this off, which Anthony Page provides, and three superb performances, which Maggie Smith and her new companions, Sara Kestelman and Samantha Bond, handsomely deliver.

Dame Maggie is a joy, a decrepit mountain of rancour in the first half - eyes blinking, mouth pursed, she looks like a tortoise newly acquainted with the light. She manages to both infuriate and provoke great sympathy, piteously suggesting all the terror of losing control. In the second act, on the other hand, she has the regal bearing and grace of the bloom of old age. Samantha Bond is touching as the youngest woman, horrified as she confronts emptiness of her life, and Sara Kestelman is excellent in the difficult, menopausal role, offering a wonderful combination of warmth, bitterness and resignation. An evening of superb performances that carry the play on when it has outrun its course.

Wyndham's Theatre, London W1.

Concerts

### 'Period' and 'tradition'

n Friday the Vienna Philharmonic made a triumphal return to the Royal Festival Hall to be creeted by a full house, including a arger contingent than ever of their Japanese devotees. What do they make of a work like Richard Strauss's Ein Heldenleben, Iuscious western decadence at the very limit of Romantic absurdity?

As conducted by Lorin Maazel, coollest of professionals, it sounded calculated but colossal. While the final peroration stretched out inordinately - the Hero's Retirement and Fulfilment: Strauss was 34 when he composed it - one was torn between admiration, sympathy and helpless mirth. Earlier the Critics' skew-whiff music had been superbly dramatised, every carping instrument stamped with charac-ter, and the orchestra's leader impersonated the Hero's Wife (Strauss's difficult Pauline) with hrilliant violinistic fantasy and dash. (The VPO is an all-male orchestra, by the hy; but Heldenleben needs two harps, and the second here was a woman. Though the programme included even "Retired Members", it mentioned only a "Harp: Harald Kautzky".)

In Schnbert's "Tragic" Symphony, the C minor, Maszel knew exactly what he wanted and the VPO gave him exactly that; no sweet illusion of lyrical spontaneity about it. He chose to play Stravinsky's 1919 suite from the Firebird hallet, not the 1911 one for the larger original band presumably because the VPO could produce such a glorious blaze for the 1919 Finale. The earlier movements, taken with deliberate care, would hardly have inspired anyhody to dance, and Maazel turned the eerily tender Bercense into Rakhmaninov. There is a hint of that, but one

would rather not be reminded.

A fascinating programme-note in opaque English, very mittel-euro-päisch, detailed the unique features of the VPO's inherited instruments and their sedulously nurtured style of playing them. At the Barbican the next evening, Roger Norrington and his London Classical Players put up a resounding challenge in "anthentic" period terms, with 1870s instruments used as the best research indicates that they were.

Woodwinds and brass balanced equally against the strings, not overwhelmed by them; vibrato not routinely turned on, but reserved for special expressive effects: templ distinctly swifter and lighter than the post-Strauss tradition has favoured. in Bruckner's 3rd Symphony - the original version, not one of the compromised rewrites the result seemed a revelation. It danced and sang, and its undisguised Wagnerian echoes were rendered at once homely, plain and abrupt, not elaborately lubricated as in Bruckner's later drafts.

One longs to bear Norrington mount bis challenge in later Bruckner too, against the ponderous "tra-ditioo". His Meistersinger overture here, dispatched for once within Wagner's preferred time (just over eight minutes), sounded an ideal preface to a musical comedy: bnoyant, bantering and still dazzlingly clever. The tradition which prescribes sonlful majesty for it is surely a hit of a con, aiming at premature encapsulation of depths that take all the rest of the opera to fathom. When Mahler, who bad a famously vexed conductorship with the VPO, declared that pious "tradition" was mere Schlamperei. unthinking laziness, he had a point to make.

David Murray

# INTERNATIONAL

### ■ BALTIMORE

Baltimore Museum Tel: (410) 396 Celebrating Calder: sculpture,

jewetry, drawings and tapestries by

the 20th century artist Alexander

Galder, from Oct 4 to Jan 7

### **BERLIN**

CONCERTS Konzerthaus Tel: (020) 309 21 02/

 Berlin Symphony Orchestra: with oboist Martin Gabriel. Yoël Levi conducts Greig, Mozart and Bartók; 8pm; Oct 7, 8 (4pm) OPERA/BALLET

Deutsche Oper Tel: (030) 34384-01 Boris Godunow: by Mussorgsky. Conducted by Rafael Frühbeck de Burgos and directed by Götz Friedrich, Soloists Include Matti Salminen, Mariana Cioromila and Camilla Capasso/Hermine May:

Des Rheingold: by Wagner. Conducted by Jiří Kout and directed by Go Freidrich. This is the first part

1.12

of the complete "Ring Cycle" to be performed in October; 7.30pm; Oct 6 Dia Walküre: by Wagner.

Conducted by Jin Kout, and directed by Götz Friedrich; 6pm; Slegfried: by Wagner. Conducted by Jiři Kout and directed by Götz

Friedrich; 5.30pm; Oct 12

### BONN

**GALLERIES** Kunst-und Ausstellungshalle Tal: (0228) 917 1236 Art in Germany: contemporary art works from the State Collection; to Oct 8

### **■ FRANKFURT**

and Shönberg; 8pm; Oct 4

CONCERTS Alte Oper Tel: (069) 1340 400 Recital Evening: with soprano Barbara Hendricks and planist Staffan Scheja. The programme includes Schubert, Wolf, Poulenc

 South Western Radio Orchestra: with sopranos Dame Gwyneth Jones and Jane Giering, and mezzo-soprano Ingrid Bartz, Peter Falk conducts a Viennese evening that includes pieces from Strauss \*Rosenkavaller" and \*Der Fiedermaus"; 8pm; Oct 3

### ■ LONDON

CONCERTS Queen Elizabeth Hall Tel: (0171)

928 8800 Purcell in the Theatre: Michael Rosewell conducts the Kent Opera Baroque Ensembla to play Purcell and Tippett, 7,30pm; Oct 3

Royal Festival Hall Tel: (0171) 928 8800

 Philharmonia Orchastra: with planist András Schiff. Kurt Sanderling conducts Beethoven's plano concertos two, three and four; 7.30pm: Oct 7 Royal Academy Tel: (0171) 439

 From Manet to Gaugin: Impressionist and post-impressionist paintings from Swiss private collections; to Oct 8

OPERA/BALLET Royal Opera House Tel: (0171) 304 4000

 Arianna: by Goehr. World premiere directed by Francesca Zambello and conducted by Ivor Bolton, A mixture of contemporary and Baroque music, reinterpreting the myth of Ariadne's abandonment by Theseus. Soloists include Susan Graham, Anna Maria Panzarella, Sheila Nadler and Axel Köhler, Bpm; Oct 4

 The Marriaga of Figaro: by Mozart. Conducted by Bernard Haitink/David Syrus and directed by Patrick Young, Soloists include Felicity Lott/Cheryl Studer, Andrea Rost/Barbara Bonney and Robin Leggate/Ryland Davies; 7pm; Oct 3, 7, 10, 13

 Tosca: by Puccini. Conducted by Simone Young and directed by Jeremy Sutcliffe. Soloists include Galina Gorchakova, Johan Bohta and Francis Egerton; 7.30pm; Oct 5, THEATRE

National, Lyttelton Tel: (0171) 928

 Wild Oats: by John O'Keefe, directed by Jeremy Sams. A palpable actor descends upon a sleepy Hampshire village; 7.30pm; Oct 3 (2.15pm)

### ■ NEW YORK

GALLERIES Guggenheim Tal: (212) 423 3500 Class Oldenburg: an anthology of works by one of the key figures of Pop art in the 1960's. This exhibition includes a new piece entitled "Shuttlecock"; from Oct 8 to Jan 14

### PARIS

CONCERTS Champs Elysées Tel: (1) 49 52 50

 National Orchestra of France: with pianist Viktoria Postnikova. Guennadi Rojdestvenski conducts Prokofiev's "Concerto No.1", "Concerto No.4" and "Concerto No.5\*; 8pm; Oct 5

 National Orchestra of France: with pianist Viktoria Postnikova. Guennadi Rojdestvenski conducts Prokofiev's "Concerto No.2" and Concerto No.3"; 8pm; Oct 7 GALLERIES

Centre Georges Pompidou Tel: (1) 42 77 12 33 Man Ray: recreation of the atmosphere of Ray's post world war

two workshop where he produced various furniture. This exhibition consists of paintings, drawings and photographs from the workshop archives; from Oct 4 to Jan 29 Surrealistic Designs: vision and technique. About 60 masterpieces by artists such as Ernst, Masson, Brauner, Dali, Miró and Picasso; from Oct 4 to Nov 27 Musée d'Art Moderne, Ville de

Paris Tel: (1) 47 23 61 27

drawings from 1938-1995. Significant art works that chart her different styles; to Oct 8
OPERA/BALLET

Châtelet Tel: (1) 40 28 28 40 New York City Ballet: performs the Robbins choreographed "Wstermill" with music by Ito and "The Goldberg Variations" with music by Bach; 8.30pm; Oct 4, 5 Naw York City Ballet: In a programme that includes the Balanchina choreographed "Cocerto Barocco" and "Walpurgisnacht Ballet" plus Tanner's "Ancient Airs and Dances" and Martin's "Fearful Symmatries"; 8.30pm; Oct 6, 7

Naw York City Ballet: performs the Robbins choreographed "Watermill" with music by Ito and "Tha Goldberg Variations" with music by Bach; 8.30pm; Oct 7 (3pm) Opéra National de Paris, Bastille Tel: (1) 47 42 57 50

 Romeo and Juliet: music by Prokofiev, choreography by Rudolph Nureyev and directed by Ermanno Florio/Vello Pähn; 7.30pm; Oct 3,

### **STUTTGART** OPERA/BALLET

Staatstheater Tel: (0711) 2 03 20 La Damnation de Faust by Berlioz. Conducted by Gabriele Farro and directed by Luciano Damiani. Soloists include Marilyn Schmiege, Keith Lewis and Ludwig Baumann; 7pm; Oct 6

### VIENNA CONCERTS Gesellschaft der Musikfreunde Tel:

(1) 505 1363 Louise Bourgeois: sculptures and Austrian Radio Symphony

Orchestra: with alto Iris Vermillion. Pinchas Steinberg conducts Einem, Korngold and Bruckner; 7.30pm;

### WASHINGTON **GALLERIES**

National Gallery Tel: (202) 737 4215 A Great Heritage: Renaissance and Baroque drawings from Chatsworth consisting of 105 works by artists such as Rembrandt, van Dyck and Raphael; from Oct 8 to Dec 31 THEATRE

Arena Stage Tal: (202) 488 3300 Holiday Heart: by Cheryl L. West. A play about hope and redefining the family; to Nov 19 Kennedy Center Tel: (202) 467 4600

 Hallo Dolly: by Jerry Herman. New production starring Carol Channing: to Oct 8 Roundhouse Theater Tel: (301) 933 1644

 Nora: by Henrik Ibsen, adapted by ingmar Bergman and directed by Tom Prewitt. Drama with the doil-lika young wife; 8pm; to Oct 8 Studio Theater Tel: (202) 332 3300 Slavs!: Thinking About the Long Standing Problems of Virtue and Happiness. By Tony Kushner and directed by Dan DeRaey. A surrealistic montage of post-Soviet culture; 8pm; to Oct 8 Woolly Mammoth Tel: (202) 488

3300 Watbanaland: by Doug Wright, directed by Lee Mikeska-Gardner. Surreal drama of life and longing in an overpowaring society; 8pm; to Oct 8

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17.30 Financial Times Business Tonight

Midnight Financial Times Business Toniaht

been



rchitects do not work in a vacuum - they are part of the nation's construction industry. Last night's ceremony at London's Tate Gallery to announce the winners of the Financial Times Architecture Award comes at a time of modest optimism for the UK architectural profession and those wbo construct large public

Construction output is set to rise by some 2 per cent next year, according to Cambridge Econometrics, the forecasting group. While this is no great leap fnrward, most of the growth is attributable to funding from the National Lottery. Mucb of the new work will

therefore be public commis-sions for buildings in sport, the heritage and the arts - the sbowcase projects that architects particularly like designing. During the past 20 years, the UK has produced some outstanding architects and they are reaching their prime just as the lottery money is coming

This year's FT award went to a huilding that typifies this new generation; Glyndebourne Opera House in Sussex, designed by Michael Hopkins and Partners.

To replace a mucb-loved musical gathering place in a beautiful English country set-ting by a contemporary building without making enemies is a great feat. Sir Michael Hopkins achieved this through the brilliance of bis architecture: be is the acceptable face of modernism, as Glyndebourne demonstrates very clearly.

However, it bas to be remembered that there is not one great building in history that did not have a powerful client: in Glyndebourne's case, it was Sir George Christie, the opera house's owner.

Sir George knew what be wanted. He raised all the money from the private sector, avoiding the need to please the sort of quango that vets pub-



Scaling new heights in a perfect partnership: Client and

# Stage knights take a bow

Colin Amery on the FT Architecture Awards

licly funded projects. And he forged a partnership with his architect while keeping overall

There are also architectural lessons to be learned from Glyndbourne. Hopkins has proved that it is possible to add on to an auclent manor house and still build a contemporary

and functional building. He bas done this by being very careful to keep the new building in scale with its surroundings. Skilful use has also been made of local materials: Glyndebourne may be the most up-to-date theatre but its bricks are hand-made, and finely worked timber sits alongside the concrete structure in the auditorium.

There is a bumanity about Glyndebourne - something we all long for in new buildings. Hopkins demonstrates that

achieving this does not require the architect to ape the past. His auditorium at Glynde-

bourne is as timeless as the

Pantheon but there is not a

classical column in sight. The quality of this year's sbortlist for the FT award shows just bow high the standard bas become, and bow hard the jury had to debate to

select a winner. Glyndebourne's competition included Eurostar's channel tunnel rail link terminal at Waterloo by Nicbolas Grimshaw and Partners. The gracious and elegant terminal has made arriving in London more glamorous than reaching the Gare du Nord in Paris.

Another outstanding huilding for a commercial company is architect Richard MacCormac's new training college for Cable and Wireless. This com-

bines academic calm and com-

mercial acumen in a gener-

ously landscaped setting near

Retailer J. Sainsbury made the long ahortlist for their Plymouth atore hy Jeremy Dixon and Edward Jones, a building designed to look as it it is sailing into the harbour.
The architectural profession

has been much battered by the recession but the best practice have survived well by adapting to the new commercial climate. Architects have had to adjust extensively to fee hidding and competition - partly in response to EU rules nn public contracts. Not many professions have to compete so furiously against their own colleagues, a process that requires huge amounts of time in preparing proposals for projects that may come to nothing. In many limited architectural competitions, there is no pay-

Architects now need skills in computer-aided design, in addition to marketing and financial ability. They also have to have management skills to secure a role in the construction team equal to that of the all-powerful project manager. Virtually none of these skills is taught during their expensive seven-

year training. In the end architects are adged by their buildings and awards such as the FT's are valuable ways of informing the client community about the best that British architects can provide.

There can be no doubt of the quality of this year's winner. Like any great operatic performance, Glyndebourne shows the value of teamwork as well as design. The architect, the client and the consultants worked brilliantly together to build at speed and with convic-

This year's winner should be the lodestar for future lottery huildings and stands as the perfect example of informed

# Europa: Patrizio Merciai

# currency melodrama



today tricht convergence require-Few today would bet a ments. That is why, until September, those currencies were penny on the Swiss franc declining in value. The currency's spectacular apprecia-

boosts

against

effect.

Swiss

Swiss franc

D-Mark, failed

to have any

So it does

look as though,

for a while, the

D-Mark suf-

fered - and the

benefited from

tion in the past few months has forced down domestic interest rates, and led to substantial increases in the value of Swiss bonds and blue-chip stocks. Its irresistible rise, we are

told, has been caused by the flight of German capital inevitably triggered by the planned switch to a single European currency. When Germany replaces good D-Marks with banana-republic Ecus (or Euros), this line of reasoning continues, the Swiss franc will be the only currency that embodies traditional monetary virtues. Not only will it be stuffed under mattresses, but every European institution seeking a diversified portfolio will have to hold it. Since the Swiss money market is so small compared with the D-Mark area's, the result could be a tidal wave to engulf even the tallest Alpine peaks.

The only defence Switzer-land would be able to muster would be to impose negative interest rates and other restrictions on non-resident deposits, just as it did in 1978.

Such catastrophe scenarios have been the main topic of conversation in the cafes of Zurich and Geneva this summer. Let us now look at what

is really happening. There can be no denying that there has recently been an influx of German capital into the Swiss market. It is also true that for a few months there was a good deal of optimism about European monetary union. There were even those who believed that an arrangement would be found to enable the weak currencies to get around the strict Maasinflation rate.

rising against the D-Mark and the high-yielding bond markets were performing so well. But the situation was abruptly reversed when, on the last day of summer, a seemingly innocuous comment by Theo Waigel, the German finance minister, brought everyone back to earth. Since then, the D-Mark has regained ground against the weak currencies and the Swiss franc. And for once, the weakness of the dollar, which usually

> In Switzerland, the official discount rate is mostly symbolic because no transactions are conducted on the basis of it

fears that Emu might be achieved quickly but without true convergence. Yet that is not the whole story. Fundamentals were also at work, in particular the differences in the monetary policies being pursued by the Swiss National

Bank and the Bundesbank. The Bundesbank bas not been its usual tight-fisted self lately. Not even the likelihood of renewed German economic growth, and its only moderate success in curbing inflation, has prevented it from continu-

ing to lower interest rates. The Swiss National Bank has not succumbed to laxity, and has come across as the last repository of orthodoxy. Determined to choke off any inflationary pressures generated by the introduction of value added tax, it pursued a relatively tight monetary policy at the start of this year, paying little attention to Switzerland's shug-

When the Swiss franc began to appreciate again, the bank gave the impression that It was following the market, rather than leading lt, in mnving interest rates down, in Switzerland, the official discount rate is mostly symbolic because no transactions are conducted on the basis of it. But it does act as a reference-point for the market. It was kept almost constantly at a percentage point below the Bundesbank's discount rate, even though Swiss fundamentals and the upward pres-

snre on the tbat it could bave reduced furwhile, the monetary base the only indicator the bank officially cares about - stayed

below its target The contrast between the nomovable moneymen in Zurich and the unusually pragmatic officials in Frankfurt thus became sharper, enhanc-

ing the Swiss franc's appeal. The Swiss National Bank did finally seem to become aware of the danger and the need to take action: after the Swiss franc took off in mid-September, it lowered its discount rate to 2 per cent, citing currency developments as the reason. That decision was hailed hy the markets and was interpreted as a sign that the bank would be more accommodating in future. By a fortunate coincidence, the decision was announced on the same day Mr Waigel tried to talk the D-Mark np. The D-Mark duly recovered a little from a nineyear low of SFr0.799. But the Swiss franc will not really settle down unless the

gisb economy and modest Swiss National Bank is more open about what its intentions are and is seen to act accordingly. Its day-to-day operations are rather opaque and their immediate effect is hard to assess. It would therefore be no had thing for the bank to confirm that it intends to chip the Swiss franc's wings rather than continuing to give the impression that its monetar

target is the be all and end all The currency will certainly remain sensitive to the vicine tudes of Emu. But recent policy statements should dispel requirements will be bent in addition, the decisions at the recent Valencia meeting not to delay Emn beyond 1999 should make for a less emotional and more business-like atmosphere This is because it has reduced the risk that the weaker currencies might be allowed to ioin without meeting the Maas tricht convergence criteria Moreover, signs that the German economy is picking up may, by the end of the year, convince the markets that the Bundesbank will clamp down hefore much longer.

Yet that is no reason for the Swiss National Bank to do nothing but respond to developments elsewhere. If it adopts such an approach, the Swiss franc - along with Swiss inter-est rates and financial markets will fluctuate wildly, rising sharply in the immediate future before suffering an abrupt correction when capital flows are eventually reversed. If, on the other hand, it states clearly what its intentions are, without being too

heavy-banded, the currency should settle down. Certainly, the bank cannot ignore the need to tone down what Oscar Wilde called the "melodramatic side" of currencies.

The author is chief investment strategist at Lombard Odier, the Geneva bank

### LETTERS TO

### THE EDITOR

Number One Southwark Bridge, London SE1 9HL We are been to encourage letters from readers around the world. Letters may be faxed to +44 171-873 5938 (please set fax to 'fine'),

Translation may be available for letters written in the main international languages.

### Russia achieving economic success, despite problems

"Early declaration o victory" (September 27), it has not been my impression that the Russian government is trying to set off a nuclear war "simply by failing to fund" nuclear submarine bases and "bundreds of state programmes". Problems persist in the flow of funds from the centre to the regions and to sectors of the economy. Also, in real terms federal expenditure has been cut by 35 per cent since 1992, causing social hard-

ship in some cases. Still, I would consider it a great success that, for the first time this year, the government has been able to execute 100 per cent of federal expenditure as specified by law; any additional expenditure will be agreed on in the state

Fine export

Sir, Your Observer article "Nutty centred" (September

28), regarding the mission to

Belgium of small and medium-

sized enterprises, would have served "UK Limited" well had

it praised the efforts of the del-

egates involved and recorded their success and determina-

tion, rather than resorting to

The participating companies

were all winners of a rompeti-

tion for places from some 1,500

attendees at recent "Begin in Benelux" seminars organised

throughout the UK hy industry

and government to encourage

such companies to enter the

exporting arena. We all bad the added bonus and privilege

of being led by the foreign

office minister, Jeremy Hanley.

It was a shining example of

industry and government

working together as we strive

to encourage a further 30,000

companies to export by the

For the record, the trade fig-

ures to Belgium last year of £7.7bn showed a year on year

increase of some 9.6 per cent.

The latest figures for 1995

show a continued improve-

ment and the nation has a positive trade balance. The Bene-

lux countries are now Britain's second-largest trade outlet.

chairman, Begin in Benelux

Department of Trode and

turn of the century.

Michael Rose,

Kingsgate House,

66-74 Victoria Street,

London SW1E 6SW, UK

Campaign.

political knocking.

From Mr Michael Rose.

effort

terised by significant struc tural reforms, a precondition for macroeconomic stabilisation, and not by "faltering structural reforms". Namely, foreign liberalisation has progressed at a rapid pace with the abolition of centralised trade at the beginning of the year and the reduction of export tariffs at the end of the year, leading to net gross domestic product gains. At the same time, energy prices have increased hy more than 40 per cent in real terms, and, thanks to two large tax packages over the course of the year, energy sectors finally have to pay some of their tax bills. Excises were more than doubled over the course of the year to counter lost revenue from export tar-

Finally, while privatisation

From Mr Richard Benzie

Sir. Recently reported remarks by the German finance minister, Mr Theo Waigel, on the ineligibility of Italy

and Belgium for monetary

union have created a stir

(Letters, September 28). Never-

theless, they may yet have a

benign impact if they encour-

age a re-examination of the fis-

cal policy criteria contained in

The problem is the debt cri-

terion, which should he

scrapped. It would, for exam-

ple, preclude Japan from par-

ticipating in monetary union,

were it a member of the EU.

Since Japan has enjoyed the

lowest average inflation rate of

any OECD country over the

last 10 yeara, this seems

As a quid pro quo for putting

the debt issue to one side. Ger-

many would be wise to insist

on a tightening of the budget

deficit criterion. Prior to the

exceptional demands of reunifi-

cation, the German govern-

ment recorded an average bud-

the Maastricht treaty.

Prudent criteria for

participation in Emu

From Mr Jochen Wermuth.

Similarly, I think that 1995 has been slow, this has not been a sign of faltering structural reform, but, on the contrary, a sign of commonsense fiscal policles. The Russian stockmarket is likely to multiply by a factor of three to 10 in real terms before too long, but is likely to remain relatively depressed before the elections. Thus, for the government to sell shares today would not be intelligent. The loans for sbares deal, however, in its final version will have private investors working to increase the value of government stakes and could be used in any textbook on incentive theory. Jochen Wermuth

head of group, macroeconomic policy department, economic export group. Ministry of Finance of the Russian Federation, Ilyinka 9. Moscow, Russia

union have argued that a com-mon currency will allow other

EU members to experience

German levels of inflation. It is

consistent with such claims to

require governments in the

common currency area to have

kept their average budget defi-

cits below 2 per cent of GDP

over the some recent pre-

The elegance of the budget

deficit criterion is that It aensi-

bly blocks the participation in

monetary union of two types of

government: those with large

debt service payments (on

account of their high inflation

ratesl and those with non-in-

tarest expenditures exceeding

revenues by a large margin. It

is precisely these two groups

for which a transition period

outside the single currency

It is surely right that the cri-

teria for participation in Euro-

pean monetary union should

concentrate on the prudence of

recent policies, rather than the

sins and omissions of the more

zone is appropriate.

scribed period.

### Criticism of forecasters : misplaced

From Mr Patrick Foley.

Sir. John Kay ("Cracks in the crystal ball". September 29) makes out economic forecasters to be mindless followers of trends. "Economic forecasters know little of what they are forecasting, so there are worse rules of thumh than expecting that the future will be like the past." He goes on to suggest that there have been important structural changes in the economy which most, or perhaps all. forecasters have failed to see. He, of course, has spotted these changes, which will have wide-ranging effects on business and finance, and economic analysis can illuminate

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because of such structural changes that economists and economic forecasters, incloding. I suspect, his own staff at London Economics, are employed. Their job is to idencasting is all about attempting to assess how the future will

now going to propose, in his capacity as professor of economics at the London Business School, that the institution's Centre for Economic Forecasting should close As he says. when someone tells you what inflation will be in the third quarter of next year, or predicts the growth of manufacturing output in 1997, do not listen. He does not know." The LBS forecasts both these things!

Of course, forecasters don't know and most forecasters (with a few well-known exceptions) would not claim to know. Most published forecasts are no more than what the forecaster considers to be the mid-point of a range of values possible under the most likely scenario Patrick Foley,

chief economic adulser. Lloyds Bank, PO Box 215. 71 Lombard Street. London EC3P 3BS, UK

get deficit of 2 per cent of gross Richard Benzie. domestic product over the Flat 5, 167 Mornington Road. London E11 3EA, UK

distant past.

### period 1981-1990. Proponents of monetary

net" after Jean. This would be

Romano Sublotto, consider calling it the "Mon- likely to be happier with a lot

# what they are". John Kay's criticism is entirely misplaced. It is exactly

tify such changes and to predict what impact they will have, whether at a macro or micro level. I know of no forecaster who simply follows trends. Indeed, economic forebe different from the past. Presumably, John Kay is

From Mr Romano Subiotto. Sir, Lionel Barber reports from Valencia ("EU on course for currency plan", October 2) that the European currency may be called the "Euro". 1 would invite our leaders to

### Monnet money - an appropriate tribute

an appropriate tribute to Jean Mounet, deal with German objections to the Ecu, preserve Gallic pride, and be phonetically more meaningful than the "Euro", since citizens are

of Monnet. A note of caution. bowever, since a Monnet could be taken to mean "small monkey" in Valencian depending on the pronunciation. 131, rue des Confederes,

### **LATVIAN PRIVATIZATION AGENCY**

Tender for **MANAGEMENT CONTRACT of** 

has been assigned jurisdiction over the State Enterprise standing of LSC's operations, likely gained through a

international ship management companies for the ad- envelopes marked "B" of the short listed bidders. ministration and management of the affairs and opera-

The tender is open. Proposals will be accepted from single enterprises, or of a consortium of parties established as a corporete body. Submitted proposals/offers must be in accordance with the lews of the Republic of Latvia. Bids must be submitted in two separate sealed enve-

lopes, clearly marked "Tender for the Management of

Latvian Shipping Company, Part A" (envelope "A") and "Tender for the Management of Latvian Shipping Company, Part B" (envelope "B") respectively. The submitted documents must be both in Latvian and English. The bidder must enclose in envelope "A" information which in the bidder's opinion is relevant in establishing the bidder's experience and ability to undertake the

list of important clients, the bidder's experience in ship management and ship related business management as well as the key personnel, indicating their qualifications 
LPA guarantees the confidentiality of the submitted The bidders must provide information about their corporate structure, including statutes/articles of incorpo-

ration, the corporate registration documentation evi-

the servicing bank. Envelopes "B" must contain the bidder's deteiled financial proposals and e draft management contract for LSC.

The bids will be evaluated in two stages. Firstly, all envelopes marked "A" will be opened and the Evaluation LPA (Latvian Privatization Agency)

**LATVIAN SHIPPING COMPANY** The Latvian Privatization Agency (LPA) is a non-profit e short list of up to five bidders, which in the Commit-State owned joint stock company established end op- tees opinion are most suitable. In this stage the Comerating under the laws of the Republic of Latvia. The LPA mittee will look favourably on a demonstrated under-

Latvian Shipping Company under privatization (LSC). previous or existing business relationship with LSC. LPA invites bids from well established and experienced During the second stage the Committee will open the

> The Committee shall after the opening of envelopes "B" of the short listed bidders evaluate their proposals in order to decide, which bidder, in its opinion would be most appropriete to enter into a contract with LPA, regarding the management of LSC. The Committee reserves the right to ask edditional information from par-

The result of the tender will be decided by the Board of the LPA, to whom the Committee reports. However, the LPA is not obliged to accept any bid, if none of the bidders meets its expectations. The successful bidder, if any, will be invited to sign a contract. The Board of the LPA will make a decision about the result of the tender within 10 days of the closing date for submission of bids. The decision of the Board of the LPA is not subject to further review or appeal by participants. The bidders will management of LSC. This information should include e be notified of the results within ten deys of the Boards final decision.

> documents. The submitted documents will not be returned to the bidders.

Bids may be submitted by delivering both envelopes "A" and "B" to the LPA tender-office (working hours Mon. dencing existence of the company and reference from Fri., 9:00 - 17:00 excl. Sat. and Sun.) at K. Valdemara iela 31, Riga, LV-1887, Republic of Latvia no later than 13:00 Latvian time, on the 20th of October, 1995. The official date and time of receipt shall be the date and time registered by LPA document reception office, and shall be evidenced with a stamp noting date and time of receipt.

Committee (Committee) appointed by LPA will prepare Janis Naglis, General Director

Privatizācijas ağentūra (Latvian Privatization Agency) K. Valdemāra iela 31, Riga, LV 1887, Latvija +371-2-328539 +371-7332082 +371-7243092 +371-7830363 ocross<sub>k</sub>

### FINANCIAL TIMES

Number One Southwark Bridge, London SE1 9HL Tel: +44 171-873 3000 Telex: 922186 Fax: +44 171-407 5700

Tuesday October 3 1995

# Laws made in secret

Mr David Martin, the MEP for Lothian, once said that if the European Community applied for membership of itself it would be rejected, on the grounds that it is not a democracy.

Since he made the remark, the European Union has come into existence. But that has done nothing to improve matters. The quasifederal community is now flanked by two intergovernmental "pil-lars" in which ministers take decisions with even less semblance of parliamentary control.

But at least those decisions are not legislative acts. Any legislation they may lead to has to be enacted by the parliaments of the member states. In the community, by contrast, laws are made which the member states are bound to enforce; and they are made by the Council of Ministers, with the elected European parliament playing only a subsidiary role.

The council is, in other words, a legislature, whose members are not elected but delegated by national governments. That puts them at two removes from the electorate. Not content with that, they debate and enact laws in private - something no legislature in any democratic country presumes

Not until the Danish vote against Maastricht 1992 did the council begin to admit the need for greater transparency. The Edinburgh summit at the end of that year promised more open government, and the Danish presidency which followed allowed television cameras into the council for

proceedings, however, and even that requires a unanimous vote on

Last year, in reply to e request from this newspaper, the council graciously agreed to arrange for the votes of its members to be recorded and "periodically pub-lished". But it refused a request from The Guardian newspaper for disclosure of its minutes, and is still fighting the issue in the Court of Justice.

Meanwhile, it is embroiled in an argument with the parliament, and has several times been criticised hy the court, for making secret amendments or exceptions to the laws it passes. This practice violates the fundamental legal principle that the content of law must be fully public - the neces sary counterpart of the rule that ignorance of the law is no excuse Yet the "code of conduct" adopted by the council yesterday, which purports to end this abuse, still allows it to exempt itself in certain cases from the obligation to make such amendments public.

The trouble is that the council is composed of ministers, who are used to functioning as an execu-tive and therefore feel the need for confidentiality. Its very name suggests an executive rather than a legislature. This point should be clarified by next year's intergov-ernmental conference. As a French minister auggested last year, the legislative and executive functions of the council should be separated, and the former should be exercised at special sessions

# Nigeria's plight

military leader, bas missed an opportunity. Instead of taking advantage of his long-aweited national day speech to outline e fresh start, he has done no more than expediency required. Next month's Commonwealth conference in New Zealand gives the opportunity to persuade him to do much more, and help him do it.

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While welcome, Gen Abacha's decision to grant clemency to alleged coup plotters sentenced to death was the least he had to do in the face of pressure from world leaders. He also commuted the life sentences imposed on Nigeria's former leader, retired General Olusegun Ohasanjo, and on a number of others.

Those sentences will almost certainly expire when Abacha's reign ends. If the general keeps his promise this will be three years' hence, the date he announced on Sunday for the handover to civilian rule. This is twice as long as an orderly return to democracy requires. It is also far too long to leave Nigeria in charge of a regime whose economic policy is incompetent and confused. Nothing illustrates this better than its belief that it can renationalise its commercial hanks, while at the same time seeking an agreement with the IMF.

The Commonwealth conference. barely a month away, is an excellent opportunity to make it clear to the Nigerian leader that what he has announced is far from enough. The opening item on its agenda for Nigeria should be to great as ever.

General Sani Ahacha, Nigeria's call on Gen Ahacha to reduce the transition to democracy to e period of no more than 18 months. He should invite the Commonwealth to monitor the election process from the start. General Abacha must also release the winner of the shorted 1993 presidential election, Chief Moshood Ahlola. In return, the Commonwealth

can help persuade Nigeria's creditors to take a radical approach to the country's unmanageable external debt burden. This would involve them making an offer of sizeable relief and long-term rescheduling - conditional on economic reform and maintaining the

Finally, if the army is to support the transition, a demobilisation fund should be established. This would be financed by the oil receipts that are currently improperly diverted to the pockets of the military. The fund would be used to help reduce the size of the army through retraining schemes and redundancy payments for ordinary soldiers. It would also pro-vide golden handshakes to senior officers who might otherwise sabotage an orderly handover, because they see their chance of enrichment threatened by civilian rule.

Given the complexity and frus-tration of dealing with Nigeria, it may be tempting for concerned governments to relax pressure on the regime, because of General Abacha's partial concessions. This would be wrong. While Nigeria may now drop from the headlines. the potential for disaster is as

### Labour's jobs

The youth employment package unveiled in Brighton yesterday by Mr Gordon Brown, the shadow chancellor, has one important advantage over many previous Labour jobs schemes. Like it or not, the funding for the proposal through a one-off levy on privatised industries - is crystal clear. Mr Brown will doubtless spend

a good part of the time between now and the election arguing the rights and wrongs of such a tax. But he had a different casa to make in yesterday's speech: namely that if an incoming labour government is indeed going to receive a £2.5-3bn "windfall", his employment proposals are the best way to spend lt.

In general terms, it is difficult to dispute the notion that high unemployment rates, much of it omite long-term, among under-25 year-olds carry grave consequences - not merely for the individuals themselves, but for the country as a whole.

International experience suggests that people who fall off tha educational and employment conveyor belt early in life often spend the rest of their careers paying for it, in lower earnings, and chequered job histories. Their lack of experience and valuable skills belps make the labour market less flerible and more prone to inflation. Also, given that the vast majority of criminal offences are committed by under-25 year olds, it is a fair guess that their idleness imposes this cost, too, on eociety. Mr Brown's priorities are sensi-

ble. In practice, these translate

into a commitment to providing a wider range of options for those young people who bave been unemployed for over six months. But there are difficulties. For example, the £60 per week employers' rebate is likely to have sizeable aubstitutiou effects, since companies will favour six-month unemployed workers over those who have just left acbool, and they may well sack people employed under the scheme when the rebate runs out, six months

Any subsidy scheme is certain to have knock-on effects of this kind. To claim that one group deserves particular policy attention is to claim that the benefits to the participants will outweigh the costs. But Mr Brown may need to provide more details to convince sceptics that all of his proposals meet this test, particularly the proposed state-run "environment" taskforce, which will need to be well-managed if it is to provide participants with useful experi-

In outline, though, the Labour party scheme seems to strike a sensible balance between a USstyle "sink or swim" approach to young workers and the vigorous state paternalism of many continental European systems. Offering quasi-public sector work as an alternative to either private sector employment or full-time education is a gamble, since such programmes tend to be costly and prone to abuse. The evidence suggests, however, that it may be a gamble worth taking.

ive years after re-unification, Germany has some reason to feel pleased with itself. The assimilation of the bankrunt, former communist east Germany is making progress.

Living standards in the east are catching no with those in the west Investment, especially in infrastructure, has been strong. In spite of buge financial transfers to the east, Germany as a whole has managed the transformation with its currency intact and inflation low. But Germany would not be Ger-

many if today's fifth anniversary of unification were not also a cause for sober reflection and anxiety. The government in Bonn has been at pains to stress that eastern Germany is only half-way to having a viable, self-sustaining economy. The costs of unification are felt by every citizen through higher taxation. including a deeply unpopular "soli-darity levy" that adds 7.5 per cent to individual tax bills. While opinion polls show that easterners are gradually taking a more positive view of unification, four out of 10 westerners think conditions have worsened since Germany hecame one nation. Slowly, the realisation is dawning that what seemed to many to be a simple takeover hy the west of the east may have pro-found effects on the whole country

in the years to come. Reunification has been a aweet and sour experience. Writing in the weekly newspaper, Die Zeit, Mr Wolfgang Schäuhle, the leader of the Christian Democrat and Christian Social alliance in the Bundestag, observed: "We have not got as far in 1995 as we thought we might in 1990. But in 1992 we would never have thought we would have got as far as we have today."

There is much positive news out of eastern Germany. The region's economy is growing rapidly, by an estimated 8 per cent this year, Its share of total German gross domestic product rose from 7.2 per cent in 1991 to 10,4 per cent in 1994, Personal incomes are rising, with the average per capita monthly income now more than 70 per cent of the western level against 49 per cent in

Industrial production is growing, albeit from a low level: output was up by about a fifth last year. Eastern Germany is acquiring a modern economic infrastructure. Spending on transport has totalled DM55bn (\$38.73), about half Germany's entire transport budget since unifi-cation. Deutsche Telekom has spent DM40bu installing 4.2m new phone lines, creating in the process a phone system that is far better than that in the west, and plans to spend a further DM20bn by 1997.

But such progress has been costly and only possible through big transfers of money from the west which are expected to continue for years. Although the transfers appear to have peaked in 1993, they are still forecast at a gross DM207.6bn this year and DM196.5bn in 1996. Such figures belp explain why Germany's overall public-sector deht will reach

transformed in the past five years. Until 1990, it was a shahhy place where you could smell and feel the gritty brown coal from the neighbouring Laubag open cast mines. Those smells have almost gone because of closures and the introduction of new technology. So have the jobs. The mines used to employ more than 55,000 people. Today, no more than 12,000 people work at Laubag.
As one smell has faded, another

has taken its place: flowers. The new public gardens in Cottbus have attracted hundreds of thousands of visitors since they were opened earlier this year.

"When I visited the gardens last week, I could see young mothers pushing small prams in the antumn sun, and pregnant women," says one east German mother of three. was a very reassnring

sight." Reassuring, because for the first time since German reunification,

The east German economy is recovering after unification - and teaching the west how to be flexible, says Peter Norman

# Sweet and sour experience



Reunification: east Germany catches up Eastern German new company start-ups GDP per employee (DM '000s) net of closures ('000s) 980 92 84 86 85 90 92 94

DM2,015bn this year, nearly double the DM1,048bn of 1990. Eastern Germany's core problem

is that it does not produce sufficient goods or services to meet the needs of its people. Domestic demand in the new Länder exceeded produc-tion by DM219bn last year. The region's industrial hase is too narrow. Just 6.7 per cent of east Germans are employed in manufacturing against 12 per cent of west

Productivity, although rising, is still low. By last year, GDP per worker was 53 per cent of the western German level, np from 31 per cent in 1991.

It is true that investment has grown strongly, with spending on plant and equipment up from DM34.4bn in the second half of 1990 to nearly DM180bn last year. But nearly two thirds of the total has

been spent on huildings. The Berlinbased DIW economic research institute has estimated that eastern Germany has only about 10 per cent of total German capital stock, whereas its size would justify a share of about 20 per cent. It could take another 10 years for capital stock and labour productivity to catch up with the west.

There are other handicaps. Eastern German companies are weakly capitalised. Profits are low: a recent DIW report suggested that only 14 per cent of eastern businesses made a profit last year. Unlike western companies, eastern businesses have no hidden reserves. They also have fewer management skills. Liquidity difficulties, which in the west would be overcome, hit hard and quickly and often with a domino effect among weakly capitalised suppliers. There are growing fears that a

1980 82 84 86 88 90 92 94 OECD, Finance Ministry Bon wave of bankruptcies will hit east ern Germany. Mr Lothar Spath, a former prime minister of the western German state of Baden Württemberg and now chief executive of Jenoptik GmbH, an east German optical group, bas warned that "ahout e half of eastern German

The weakness of eastern German companies has been especially striking in export markets where the new Lander accounted for only 1.8 per cent of total German exports in

manufacturing companies are in

acute danger".

These problems are crystallised in continuing bigh unemployment. The region's unemployment rate was 13.9 per cent in August against 8.2 per cent in the west. Nearly two thirds of those out of work are women.
And yet, because productivity

growth bas lagged hehind the growth of wages, eastern unit labour costs are about 37 per cent higher than in the west. The unemployed in the east are paying dearly for the German trade unions' policy of transferring western wages and other conditions to the new Lander as rapidly as possible.

Eastern Germany will continue to depend on taxpayers' support for some years to come. Although the government would love to get rid of the solidarity levy, a phased abolition is unlikely to start before 1998. Inevitably, the mixed record since unification is prompting second thoughts as to whether opportunities bave been missed and if things could not be managed better in the

Some, like Mr Späth, now regret that the takeover of east was not used to introduce reforms that could have served as a model for western Germany.

r Georg Milbradt, another westerner. who is finance minister of the east German Land of Saxony, has complained that what was in effect a takeover of the east hy western Germany led to the adoption of western German practices and attitudes which were insufficiently dynamic for a society going through a fundamental change. In particular, be argues that the imposition of west Germanstyle wages was the main reason wby 3.5m people lost their jobs in

the east between 1989 and 1993. In this important area, however eastern German companies are taking the initiative to break with western practices. Local employers are increasingly cutting deals with trade unions or taking unilateral action to undercut the costly labour wage settlements agreed at a

A worried Mr Dieter Schulte. head of the German Trade Union Federation, warned last week that developments in eastern Germany threatened to "hollow out" Germany'a system of collective wage hargaining and wage setting. He cited survey evidence which suggested that only one third of companies belonged to employers associations and were thus obliged to implement collective agreements. Of the other two thirds, half paid wages that undercot the agreements. Moreover, even some companies that did belong to employers' associations were ignoring the agreements and paying lower

Eastern Germany's labour market practices could be an early sign of bow unification is destined to bring change to Germany as a whole. Mr Milbradt certainly bopes it will. Unification, be says, should be treated as a welcome chance for

"We must change the western German model," be says. "Then, despite all the errors and burdens, the process of unification could lead to an increase in the flexibility of the entire German economy.

# The east German state of Brandenburg, bas been Scent of self-confidence

### **Judy Dempsey** finds a new optimism in the east

stopped falling. In 1993, eastern Germany had fewer than 5.1 births per thousand people - 60 per cent fewer than in the same period of 1989 and half the rate in western Germany. The fall was the largest ever in the industrial world - the only comparable one was in Berlin between 1942 and 1946.

But then the birthrate climbed between October 1994 and April 1995, indicating that east Germans may not only be coming to terms with unification but beginning to have faith in the future. "I want to have another child

now," says Ms Gaby Schröter, a 30-year-old east Berliner. Her first child was born in 1989. Trained as a teacher, she has been unemployed since 1992 and receives DM1,200 (\$843) a month in unemployment

the birth rate in east Germany has benefit. But her husband has a job. DM137,000 in the west. East Ger-"We can manage financially. I also think we are slowly coping with the huge traumatic changes which have taken place in our lives since 1990. I suppose yon can say we are adapting."

Unemployment in the east remains high, but east Germana are saving and accomulating financial assets at a rate which has surprised even the Bundesbank.

In its May report, the Bundes-bank noted that "the financial assets of residents in the New Lander have nearly doubled since monetary union hecame effective and now correspond approximately to conditions in western Germany around the middle of the 1970s". In east Germany, each household last year had financial assets of DM40,000 compared with compared with

mans saved 11.9 per cent of their disposable income, not much less than the 12.7 per cent figure for west Germans. "My friends are even beginning

to build or buy houses," says Mr Rainer Manthel, an east Berliner who owns his own office cleaning husiness. Mr Manthei recently hought a plot of land outside Berlin and spends his spare time building

"We can now plan for the future. We are putting money aside. We have an idea where we are going,' be says. Benjamin, his third child, was born last April, the first hirth in the family since unification.

East Germans are not just having more children and saving more of

their earnings. They are also changing their spending habits,

after indulging in a consumer following the exchange of their Ost Marks for D-Marks. The craving for west German goods has given way to a sense of confidence in their own products - of which they were so ashamed in the aftermath of unification.

Ulricb, the local snpermarket chain which has an ontlet in Mitte. the heart of east Berlin, displays more east German cigarette and dairy brands than west German products. Local food producers report that their share of the east German market has risen to 40 per cent from 30 per cent in 1991.

"Of course some east German products are cheaper," says Mr Horst Dieckmann, a sales assistant in one of the Mitte's local Tabaks, outlets which sell newspapers and cigarettes. "But that is only part of the reason. I think east Germans now feel their products are just as good as the West German ones. I think we feel more confident about unification. Less inferior to the

### **OBSERVER**

### Nuclear option

■ First prize, France. Second prize, the world. It seems almost too Gallic to be true, but a new book published yesterday describes how. a year or so ago, aides to the former French prime minister Edouard Balladur were wracking their hrains for a carrot to persuade Jacques Chirac to drop out of the presidential race.

Aha, they thought - as Bernard Brigouleix, then Balladur's press secretary, reveals in his book what better pick-me-up for failing to secure the Rlysee than the secretary-generalship of the United Nations? Hence advisers to Balladur, who was riding high early in the campaign, came to discuss the notion of promising to promote Chirac as a successor to Boutros Boutros-Chali

Of course, Balladur lost to Chirac. not the other way around, which is perhaps just as well. Considering that the impulsive

Chirac has managed to alienate much of the world within the first five months of his presidency, just think what be could have achieved at the UN.

### End of the line

■ The glaciers of Iceland must have juddered to a halt in their tortuous progress to the sea yesterday when the company. Yesterday be said

Mrs Vigdis Finnbogadottir surprised the country's 1065-year-old Alting - or parliament - by declaring she would not be standing for another term as president in next year's elections. The ever-popular president has won four terms of office - twice uncontested - since she was elected as the world's first woman head of state in 1980. Since then, she has come to symbolise paradoxical lceland, a far-flung but highly

progressive outpost where volcanic hot springs bubble in the shadow of great glaciers. Despite her youthful looks. Mrs Finnbogadottir has evidently decided that at 65 it is time to step down from the cares of office.

### Duck netted

■ Well, well, Perot Systems, the Dallas computer consulting group founded by Texas billionaire Ross Perot, bas brought James Cannavino, IBM's former chief strategist, out of retirement, and signed him up as its president and chief operating officer.

Nicknamed "wild duck", Cannavino was once viewed as a potential future chairman of Big Blue, but Lou Gerstner dashed his hopes on arrival in April 1993.

Refusing to sign a "non compete" agreement - and thus foregoing millions of IBM share options -51-year-old Cannavino took his leave in March after 32 years with

that he had decided he had been "retired for long enough". "A flea with global ambitions", as

its boss Morton Meyerson yesterday styled it, Perot Systems has yet to hve up to its promise. But last month, it signed an important deal with Swiss Bank Corporation. That, together with Cannavino's arrival. certainly helps it along the way to a public stock offering. Cannavino could then recoup some of those millions he left on the table at IBM and Ross Perot, who owns 20 per cent of Perot Systems, would do quite nicely, too, thank you.

### Cobbled together

■ As Jean Saint-Geours comes to the end of his six-year stint as chairman of the Commission des Opérations de Bourse, the French markets watchdog, the battle to appoint his successor seems to be about almost anything but eecurities regulation.

Jean Arthuis, the bean-counter turned minister of economics and finance, is keen to promote his own directeur de cabinet, Jean Lemierre. This, bowever, seems to have little to do with any high regard for Lemierre, inherited from his outspoken, and now sacked, predecessor Alain Madelin. No. Arthuis is determined to show that he is his own man, and giving the COB position to his directeur de cabinet - with whom he does not see eve to eve - would be a useful early marker.

Word has it that he could be pipped at the post hy Michel Prada, now head of the state-backed specialist development bank Crédit d'Equipement des Petits et Moyens Enterprises. Prada's card is that the powers

that be seem to want an elegant way of extricating him from an institution with its share of financial difficulties. Time for a regulator of regulatory

appointments?

### Bomb shell ■ How times change. It is 75 years

almost to the month ago since someone tried to blow up the Wall Street headquarters of J.P. Morgan & Co. The House of Morgan, which was even more powerful then that it is today, survived intact but more than 40 people died in the explosion.

The immediate assumption was that it was the work of the Bolsheviks who wanted to strike a blow at the best-known pillar of capitalism. The US Justice Department started searching for five anarchists, all with Italian names. In the end no one was found guilty and the question of who planted the bomb remains a

mystery to this day. Now a US federal jury bas convicted 10 Moslem radicals including a blind cleric - of plotting to blow up several New York landmarks in 1993. Let's hope they convicted the right guys.

### Financial Times

### 100 years ago The Sequel to Sequah Five years ago – to be precise in June 1890 – the guileless and

trusting British investor was asked to subscribe the sum of £200,000 towards the acquisition of the business of Sequah Limited. The prospectus was framed along the most glowing lines, and seemed to open up to subscribers a prospect of almost illimitable returns. Chemists' testimonials were

appended to the prospectus by the score, to prove the immense demand that existed for Prairie Flower and Sequah Oil, which were declared to be specifies for indigestion and liver complaint. The system of advertising.

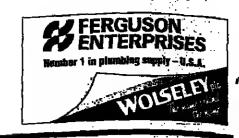
which was by the cheep method of Cheap Jacks, who toured the country on waggons and descanted eloquently upon the merits of these admirable remedies, was eulogised.

So much for promises, now for performances; and seldom has there been a greater contrast between picturesque imagination and bleak reality. From the commencement of the company's operations, the profits on the Prairie Flower appeared to wither up, and the number of people who lubricated themselves with Sequah'a Oil to fall off lamentably.

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Tough reforms must be continued, warns report

# Russian economy set for growth, says OECD

By Chrystia Freeland in Moscow

The Russian economy could grow by up to 10 per cent next year if the government continued to implement tough market reforms, the Organisation for Ecocomic Co-operation and Development concludes in its first survey of the country.

In the report published yesterday, the Paris based OECD fore-casts that Russia's economic output, which declined by 15 per cent last year, could stabilise this year and grow by as much as 10 per ceot in 1996. It also praises the government for its privatisation programme and for encouraging a flexible labour market.

But the OECD warns that Russia's progress depends on continued government commitment to liberalisatioo and toogh fiscal policies. If the government falters, possibly distracted by the temptation of appeasing voters before parliamentary elections in December, output could fall again next year, says the OECD.

The report highlights the role which the International Monetary Fund has played in Russia's reform process. In frank lan-guage, it points out that Russian leaders have "put the interna-tional financial institutions in a difficult position" by building foreign financial assistance into this year's budget loog before a deal

was achieved with the IMF. The OECD says this approach

**EU** divisions

US, which bave suffered from

mental divisions over EU policy

Continued from Page 1

### Russia of with output and investigent First quarter 1990=100 1990 95 1993 1994

locked IMF officials into an awkward positioo in which "what might be justified hesitation oo their part [could be] portrayed as a cause of the fragility of [Russia's] macroeconomic position."

It notes the IMF's monthly monitoring of Russia's economic performance this year, which it describes as an "unprecedented" measure, and one which had helped keep Moscow's spending under control.

But the report's authors say that, because of a reluctance to reveal economic data to ontsiders and even to other branches of the government, gathering information about Russia was "significantly more difficult" than for other OECD surveys. In a sign of caution, the OECD also insists that in Russia "the process of transformation is far from complete and its destination remains unclear". One problem ideotified is the failure of the privatisation programme to lead to comprehensive reform of corporate governance. It also urges the government to continue with price

liberalisation. Although the report is focused oo the economy, it devotes con-siderable attention to the political issues which have often acted as a brake on economic change. It criticises the haphazard nature of political decision making in Moscow and warns that provinces often ignore central deci-

# Mitsui turbine link with GEC Alsthom

trade disputes such as the EU banana regime and more funda-

toward Bosnia. This relationship is too important to discuss narrowly," said Mr Kinkel, "Trade liberalisation must stay in the action plan as must the proposed study Alsthom, the Anglo-French company, aimed at increasing their

of the free trade area." Mr Hervé De Charette, French foreign minister, said tha time was not ripe for discussions on further tariff liberalisation or the proposed study of a free

### Hanson

Cootinued from Page 1

compared with 34 per cent in the year to March 1995 and 46 per cent at privatisation. PowerGen's share is set to fall from 23 per

Because National Power is retaining the liabilities for decommissioning the plants, Hanson would not have to put the acquisition debt on its balance sheet which has been weakened by the purchase of Eastern. The payment will be split between an initial sum and further payments related to the level of output at the plants.

By Gerard Baker in Tokyo and John Ridding in Paris Mitsul Engineering and Shipbuilding of Japan yesterday formed a new alliance with GEC

share of contracts for power generation in the rapidly expanding east Asian market. The two companies signed a technology licensing contract which highlights Mitsui's ambitions to expand its influence in power generation following Its purchase last month of a majority stake in the energy division of

Babcock International, the British boiler and turbine maker. GEC Alsthom, the power, transport and engineering group jointly owned by Alcatel Alsthom of France and General Electric Company of the UK, hopes that the Mitsui connection will strengthen its presence in Japan

and other Asian countries.

Under the 10-year contract, Mitsui will use GEC Alsthom's technology to manufacture steam turbines with an output capacity of 150MW or less, while GEC Alsthom will be able to expand its medium-sized turbines business

in Japan and Asia. The deal with Mitsul was

viewed by industry observers as a significant alliance which would raise GEC Alsthom's presence in medium-sized power stations. "This is an important section of the market where it is useful to have entrenched partners," said one engineering analyst. "The business and technical record of Mitsul will complement GEC Alsthom's already strong presence in the region," GEC Als-

thom said yesterday. Steam turbines account for about one-quarter of activity in GEC Alsthom's power generation business, the group's largest division with sales of Ecu4.04bn (\$5.13bn) last year. They are regarded as a particularly important area of the market, because they often lead to contracts for power stations.

Some of the group's biggest contracts have come from power neration in Asia, particularly n China. Earlier this year, GEC Alsthom was selected to supply two 1,000MW steam turbines, generators and related equipment for a nuclear station at Ling'Au, in the province of Guangdong. It also supplied the turbines and other conventional equipment for the 2,000MW nuclear station at the nearby Daya Bay complex which was inaugurated last year.

FT WEATHER GUIDE

### **Phoenix** telecoms alliance ready in January

By Alan Cane in Geneva and

Phoenix, one of the three large international alliances bidding to become global "telecoms super-carriers", will open for business tives claimed yesterday.

The Phoenix alliance involves Sprint, the third largest US long-distance carrier, and Atlas, a joint venture between Deutsche Telecom and France Télécom.

At the Telecom '95 telecoms exhibitioo in Geneva, Mr Chris Rooney, president of Sprint International, said yesterday: "We expect Phoenix to be approved at the December 7 meeting of the US Federal Communications Commission and we expect to be

in business from January 1 1996. The claim surprised the alliance's main competitors - AT&T and MCI, the largest and second largest US long-distance carriers, and British Telecom of the UK because neither Atlas nor Phoenix have regulatory approval from the FCC or from the European competition authorities in

AT&T is currently seeking approval for its own venture called "World Partners". BT and MCI have approval on both sides of the Atlantic for a venture called Concert. The US and British telecoms companies, both operating In fully liberalised markets, are trying to block the Phoenix alliance, alleging they are not allowed the same access in Germany.

The statement also conflicted with an earlier announcement from the European Commission that it may bave to delay its plans for the liberalisation of

alternative telecoms networks. A draft directive requiring member states to allow alternative networks, such as those run by railways and utilities, to be used for the provision of all services by January 1 has been awaited. Mr Karel Van Miert, EU competition commissioner, has pressed for concessions from France and Germany, which wants a later date for liberalisation. In return, he has indicated

he might give consent to Atlas. "The Commission's first date was for January 1, 1996. But this might be unrealistic as a meeting of telecommunications ministers has been scheduled for the end of

November," an EU offical said. The Commission, however, coofirmed it had been supplied with the additional information on the Phoenix deal which it had sought

by a September 28 deadline. Phoenix and Atlas aim to compete for the lucrative telecoms business of large international companies to which they will offer a one-stop service. They have so far failed to win approval from the regulators because the French and German telecoms markets are closed to foreign competition and will not be liber-alised until January 1 1998.

### THE LEX COLUMN Postal strike

The Deutsche Post-led hostile bid for Germany's Postbank is a bit like the consolidation of the UK's electricity sector happening hefore the compa-nies were even privatised. Not only is it bizarre but it raises serious concerns over government handling of the privatisation of the former Deutsche Bundespost, since the structure has started to be dictated by outside par-

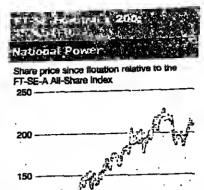
The strategy behind the bidding conaortium is clear. Dentsche Post is struggling as a result of falling contributions from a newly-separated Postbank. And its management must be concerned about its ability to achieve privatisation as a pure postal business, given the British government's recent difficulties. Its main partner, Deutsche Bank, could use the deal to spur consolidation within Germany's sprawling banking sector. However, it appears more interested in expanding the range of services available to Post-bank clients – and presumably mak-ing a large profit on the investment

when Postbank is eventually floated. The more puzzling question is why the government should consider the consortium's offer. It is offering only half tha valuation put forward hy Postbank's advisers, despite tha fact that there are plenty of other potential buyers. The deal would make Deutsche Post a more saleable item, but it would still be a tougher flotation prospect than a separate Postbank. The government clearly needs time to rethink its strategy for the Bundespost. If it accepts this offer now, it will be selling German taxpayers short.

### French banking

Crédit Lyonnais's criticism of French mutual banks for making uneconomic loans is a classic case of the pot calling the kettle black. After all, the state-controlled bank was so reckless in its lending that the government had to mount a FFr135bn rescue operation earlier this year. But an equally appropriate aphorism for Mr Jean Peyrelevade's remarks is: It takes one to know one. The Credit Lyonnais boss has pinpointed a problem that faces mutuals not only in France but throughout much of Europe. Because they are not adequately accountable and do not pay dividends, mutuals have little incentive to behave commercially. If that leads to uneconomic lending, the rest of the banking sector

Mr Peyrelevade's remedy is for the banking regulator to force banks that



make uneconomic loans to take higger provisions. The idea has some merit: if mutuals had to take a charge upfront when they were lending unprofitably rather than waiting until the effects of their folly became apparent, they might be deterred from making those loans in the first place. The suggestion'a main weakness is that it places great faith in the regulator's commercial judgment. A better solution would be to convert the mutuals into shareholder-owned banks, which would then be subject to the canons of the market. That may not look practical politics in France today. But if depositors received free shares on conversion - as members of Britain's building societies have - views could

### National Power

swiftly change.

National Power's denial that its £2.8bn takeover of Southern Electric is a defensive move rings hollow. The generator is facing real threats to its market share in 1998, when electricity companies will no longer be tied to long-term contracts at high prices. Furthermore, it is giving np market share through the sale of 4,000MW of generating plant as required by the regulator. Access to domestic customers will be crucial in the newly-competitive market

National Power was clearly out-Danked by PowerGen's offer for Midlands Electricity. The acquisition of Southern now puts it on an equal footing. And it also solves more immediate problems. The plant disposal would have taken a large chunk out of earnings. But the Southern acquisition, at the very least, will make up

POWER

for that. Finally, the deal reveals much about National Power's much trumpeted ambitions overseas. Had expansion been so easy, the company would surely have invested the money abroad where returns are much higher than in the UK. Instead, it has opted for a route which will restrict its abil ity to make international acquisitions

Such factors abould not detract from what appears to be a sensible acquist tion at a fair price. However, questions over National Power's motives may finally affect both its and PowerGen's shares. The deal has drawn attention to the pressures on both companies. both short and long-term. After years of outperformance, the generators may now be due for a derating.

### Special dividends:

The feeding frenzy in the UK electricity sector has produced a new use for special dividends. The manoeuvre-involves the bidding company's raiding its target's balance sheet to pay special dividends to finance part of the acquisition. The beanty of the scheme is that tax-exempt shareholders mainly institutions, are able to reclaim the advance corporation tax (ACT) that is deducted before such dividends are paid out. In National Power's bid for Southern Electric the special dividend of 185p is worth 231p to such investors. If half of Southern's shareholders are tax-exempt, the Inland Revenue will in effect be contibuting more than £60m to the cost of

This takeover wheeze has appar eutly been used only in electricity bids, hut it could have applications beyond the sector. It will not work when the target is paying out more ACT than mainstream corporation tax, because a special dividend will simply increase the target's tax bill. Nor will the scheme work if the bidder is paying out more ACT than mainstream corporation tax, as it will want to use the target's capacity to pay more ACT to cover the tax payme on dividends to its own shareholders But where both bidder and target are paying more corporation tax than ACT, paying special dividends is a smart way to woo the institutions which often determine takeover bids. Whether small tax-paying investors, who cannot reclaim the ACT, fare so well is another matter. The danger is that they could be offered rather less than their shares are worth.

Lex comment on First Choice, Page 21

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### **Europe today** A high pressure system will strengthen over

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central and south-east Europe as a strong low pressure system develops west of Ireland. As a result, southerly to southwesterly winds will bring warm and moist air to western Europe. The Benelux and France will have showers and thunder is possible. Rain can be expected over western parts of tha British Isles as an active frontal zone sweeps in from the Atlantic. Italy, Greece, the Balkans and much of Turkey will be dry with sunny periods. Over European Russia, an active Scandinavia will be partly cloudy with rain only over western Norway.

### Five-day forecast

Western Europe will be rather changeable hut conditions will become more settled as a large ridge of high pressure bullds over the continent. Scandinavia will become more unsettled with Norway and Sweden, especially, having rain at times. South-east Europe will have plenty of sun.

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SECTION 1

# TELECONBUNICATIONS

n Einstein with an intuitive Agrasp of relativity might understand it. But to the ordinary observer, international telecommunications has become a dazzlingly exciting but tantalisingly complex business, its seemingly limitless potential to transform the way we live and work, proving both invigorating and daunting.

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A constantly developing mesh of global alliances between operators and suppliers is hiurring the line between competition and co-operation. State-owned monopolies are opening their doors to private capital and their networks to rival operators as waves of privatisation and liberalisation sweep across the

Companies foreign to the traditional telecoms business are stakingout their claims in a new and little understood territory where telecommunications, computing and media converge.

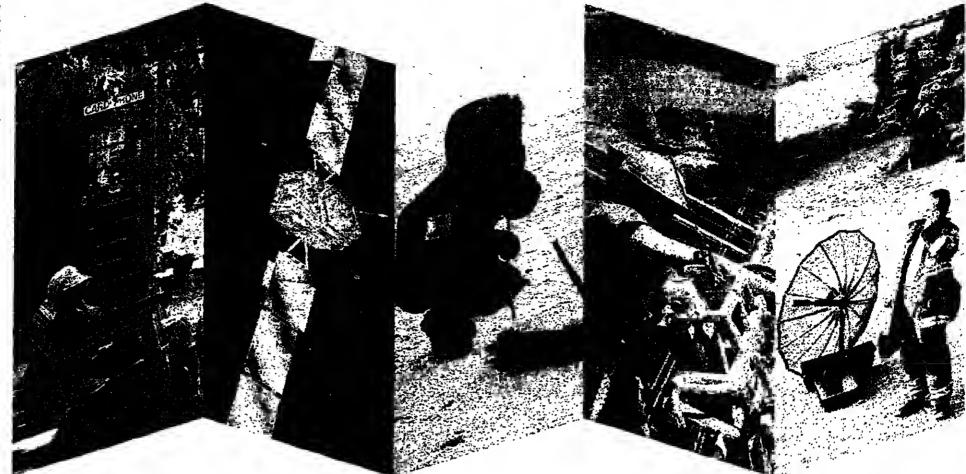
Typical of the transformations shaking the industry is the decision announced last month of AT&T, the largest US telecoms company, to restructure into three separately quoted companies - services, equipment and computing.

It is the most dramatic change in the company's structure since the forced divestment of its local phone operations in 1984. The aim is to give each company a better focus on its particular market and present a clearer market image for the equipment and services businesses.

Much of the confusion in the telecoms world arises from the speed with which the staid and orderly world of plain old telephone services ("pots") is being shaken up by the arrival of what older executives describe as "pretty awesome new stuff" (or "pans").

When the international telecommunications industry last gathered in Geneva in 1991 for its four-yearly exhibition and conference, the excitement centred on the entrepreneurial possibilities being provided by privatisation, liberalisation and

There was no talk of a Global Information Infrastructure (GII) of the kind that Mr Al Gore, US vice-president, has been promoting so persuasively over the past two across the world access the Internet. years. The Internet was an open secret among scientists and technologists, but few others.



### Transforming the way we live and work

While the developed world experiments with exotic network applications, such as shopping and banking from home over the telephone, investment in telecoms in the developing world must double, to total more than \$60bn a year, if unfulfilled and growing demand for conventional and new services is to be met, reports Alan Cane

expensive, used chiefly by businesses which could justify the cost. ATM (asynchronous transfer mode), multimedia, video-on-demand, the information superhighway and other catchphrases of the cyberspace revolution had yet to become common parlance.

Today, more than 50m people an ad hoc network of computer networks without ownership or management, every day. Multimedia per-Mobile phones and services were "some computers can be plugged into

telecoms oetworks as easily as telephone bandsets. And telecoms operators, computer companies and media groups are sinking fortunes into dreams of an on-line world where entertainment and information of all kinds are available over high capacity networks.

Technology is driving the migration from pots to pans such as multi-media. Its development and potential will be examined in the introduction to the second section of this survey. But while the developed world

experiments with exotic network applications, such as shopping and banking from bume over the telephone, the majority of the world's population has yet to make a telephone call.

According to the World Bank,

investment in telecoms in the developing world must double, to total more than \$60bn a year, if unfulfilled and growing demand for conventional and new services is to be met. Ms Veronique Bishop and Mr Ashoka Mody point to the scale of

paper\* - "long waiting lists are common, especially in low income countries. Registered waiting lists for new telephone service in 1994 represented 27 per cent of the number of installed lines," they note. For many, even if they can afford a telephone, the wait can be 10 years or

Bishop and Mody add: "The large unfilled demand for telecommunications imposes a severe cost on firms and households. Indeed, for firms

the problem in a recent discussion competing in international markets, the situation is acute. Studies have shown that both the quantity (lines per population) and the quality of telecommunications are critical for generating exports and attracting foreign investment". Bishop and Mody argue the only

solution, one which is already being adopted by governments in both the developed and developing world, is a pluralistic market structure where

Continued on next page

### INSIDE

 Europe: competition and regulation - there are now serious concerns about the speed with which telecom markets are opening up. FT correspondents report on telecom operators and markets in Germany, France, Britain, Italy and eastern Europe and the race to update national networks Pages 2-7

North America: new technology is giving telecom users wider choices and more control over how they use services. A focus on the split-up at AT&T.

 Latin America: in Mexico, the telecom deregulation countdownfor a \$75n market is under way. In Brazil, the cellular market is 'ready to explode'.



the market's early expectations have been

Equipment suppliers: contrasting fortunes for suppliers in Germany, France and Scandinavia. Pages 15-19

Views from the top: in both sections of this survey, leaders of several of the world's largest telecom companies in Europe, the US and Japan look to the future. See pages 8,19,26 and 39

Part Two of this survey (pages 21-40) looks at telecom services and new frontiers in technology. The international sections highlight markets in Africa, Asia and the Pacific.

Editorial production: Michael Wiltshire

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# ls batters down the doors

There are serious concerns about the speed with which telecom markets are opening up

Opening previously closed markets to the full force of competition is one thing. Putting in place a regulatory structure that nurtures commercial rivalry and effectively works against anticompetitive behaviour is quite another.

Tha UK and Sweden have the only truly open north European telecoms markets. They both have several years' experience of wrestling with the problems of regulation and competition. Now governments in mainland Europe, irrevocahly committed to opening their telecoms markets to competition in both infrastructure and services by January I 1998. must travel the same path.

There are four reasons why regulation is essential when telecoms markets are opened to competition:

☐ First, to ensure that a basic telephone service is available to all at a reasonable price - the so-called universal service obligation.

Second, to ensure that new competitors are able to interconnect their networks with that of the former monopoly operator at reasonable cost. Third, to prevent established operators from stifling competition at birth through their stranglehold on the final connection to the home or regulatory regime each will introduce, or the steps they

D Fourth, to ensure fair competition in new services expected through the "information superhighway".

It is certain that without European Union insistence on a firm deadline for market liberalisation, more than a few countries would bave been happy to have kept their markets closed indefinitely.

As it is, Ireland, Greece, Portugal and Spain have been granted until 2003, if they wish. to dismantle monopoly provision of infrastructure and services. Their arguments are that their telecoms regimes are not yet sufficiently robust to withstand competitive pressures from outside.

### **Driving force**

The RU, in fact, has been the driving force behind most aspects of the liberalisation of the European market, from the creation of a free market in modems, the devices which make it possible to transmit and receive computer data down a telephone line, to the adoption of proposals last June to open up the union's mobile telecoms markets.

There are serious worries however, about tha speed at which Europe's new telecoms market is shaping up. The fact is that no pattern for liberalisation throughout European has yet emerged. There is no clear agreement on the rate at which individual countries will intro-

will take to ensure competition develops quickly and fairly.

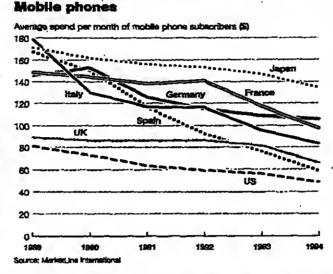
Only a few weeks ago Mr Reed Hundt, chairman of the US Federal Communications Commission, warned that the EU was moving too slowly in developing regulations and rules for the sector.

The result has been a mea sure of uncertainty over tha shape of both regulation and competition in mainland Europe which is making plan-ning difficult for for companies anxious to take business from former monopolistic carriers.

It is also a source of anxiety for government anxious to

duce competition, what kind of redocs their budget deficits by selling shares in their national carrier, at least five primary or secondary offerings are expected in Europe in the next few months. Tha absence of a clear regulatory structure may inhibit investors who will seek safer purchases elsewhere.

In Italy, for example, until the government agrees a regulatory framework for ntilities. rapid sale of shares in Stet, the holding company for Telecom Italia, is unlikely. Talecom Italia was created last year as the result of the merger of five Italian operating companies and essentially has a monopoly m Italian telecoms. Shares in Stet are due to be sold this antumn or early next year,



depending on circumstances. In July, its shares were listed on Wall Street as American Depositary Receipts in preparation for the sale.

Germany is a further example. Europe's largest telecoms market, it is dominated by Dentsche Telekom, the third largest provider of telecoms services in the world with some 39.4m exchange lines. It is burdened by debt, overmanning and an uncompetitive cost structure. Owned by the German government, it is due to be privetised next year. According to the consultancy Ovum, however, DT warned earlier this year that It would not consider itself ready for flotation until it knew how many licences would be offered to competitors and which services were to be liberalised.

### Competitive tariffs

A number of companies. both native and foreign, have formed joint ventures in Germany to be in a good position to challenge for operator's licences when voice communications is liberalised at the beginning of 1998. They have a clear expectation of being able to offer competitive tariffs to the lumbering Deutsche Tele-

Brussels is responding to the tardiness of its members with brute force. There has been liberal use this year of a legal device, Article 90 of the EU treaty, which allows Brussels to act without consent from the Council of Ministers, the EU's chief decision making body.

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Karel Van Miert, the competition commissioner, used it to drive through directives deal. ing with both conventional and "alternative networks". In July this year the Commission agreed a draft directive which "implements the political agreement among the member states to liberalise all telecommunications services, includ. ing public voice telephony and telecoms infrastructure, by January 1, 1988". More criti. cally, the draft directive called on member states to take the necessary steps before 1998 to ansure their markets were

fully open by the deadline.
It also set a deadline of January, 1997 for the liberalisation of "alternative networks" telecoms networks run by utilities such as railways and electricity companies.

Some have called for a form of Europe-wide regulation. directed perhaps from Brussels, but it seems unlikely the member states would agree to this proposal. What is more likely is that each member will create its own code, with cortain agreed common principles covering access to networks, interconnection charges and the universal service obligation to ensure a union-wide open market.

The UK has been dealing with these issues for morethan 10 years; its experience suggests it will not be a simple

■ Germany: The last eight months have seen frenzied alliance-making in Europe's largest telecoms market, reports Michael Lindemann in Bonn

# liances line up

While newcomers prepare to take on Deutsche Telekom, the German

operator itself has not been idle

In late August, when AT&T finally settled for a German partner, months of speculation about the future of telecoms in Germany came to a sudden Analysts and consultancies

will no doubt spend bours between now and 1998 developwhich might be expected when Germany, the world's third-biggest telecoms market in revenue terms, is fully liberalised. largest telecoms operator, had

But once AT&T, the world's settled for a German partner. eight months of frenzied alliance-building came to an end and it at least became clear who would be competing with Deutsche Telekom, the monouolist which by 1998 will be partially privatised. Five big alliances between

German and international telecoms operators have been moulded this year. Deutsche Telekom has a

strategic alliance with France

Télecom, the French operator, dubbed Atlas. That joint venture in turn owns 20 per cent of Sprint, the third-largest US long-distance carrier.

 Communications Network International: a three-way venture which is 50 per cent owned hy Mannesmann, the engineering company which has enjoyed considerable success with its D2 mobile phone network. The two other big partners are Deutsche Bank and RWE, the energy-based conglomerate; each bold 25 per cent. Uniworld, the joint venture between AT&T and Uniintent and begun talks which could end with it taking a stake in CNL

· Vebacom: a joint venture between Veba, another utility with telecoms ambitions, and Cable & Wireless, the international telecoms group. Veba owns 55 per cent and has management control.

· Viag InterKom: a joint venture between Viag, the Munich-based industrial group. and British Telecommunications, the UK-based operator which has a global alliance with MCI, the second-biggest US long-distance carrier. Viag and BT own 37.5 per cent each and the balance is likely to be



Wolfgang Bötsch, the German

sold to one or more German partners.

 Thyssen Telecom: a company which is 90 per cent owned by the steel-based industrial conglomerate Thyssen and has a strategic partnership with BellSouth, the largest of the so-called Bell regional operating companies.

Thyssen, arguably the weakest in the pack because it is not as rich as the utilities and does not have a significant fibre ophic network of its own.

so far. T-Net, its corporate network

has been the most aggressive

subsidiary, has leased lines from Deutsche Telekom to connect Germany's biggest cities, and is busy trying to lure customers away from Deutsche Telekom. The company bas scored

some initial successes. Apart from users such as Blohm and Voss - the Hamburg shipyard which belongs to Thyssen and is therefore part of the so-called closed user group of . companies which operators may hulld up before 1998 ness by offering to look after the telecoms needs of Nokia. the Finnish telecoms group, Liebherr, the engineering company and Total, the French oil

The others are planning similar operations. Viag InterKom has teamed up with Bayerische Vereinsbank and Bayerische Hypobank, the two big Bavarian banks, and plans to launch corporate network services this autumn based on Viag's own fibre optic network which is about 4,000km long.

Thyssen and others risk being played off against Deutsche Telekom by customers looking for a better deal. While

the investment in new clients may pay off after full liberalisation in 1998, the existing corporate network activities are likely to have only a limited impact on Deutsche Telekom's husiness before then.

"The new entrants who are positioning themselves to tar-get Deutsche Telekom's private network business would be doing extremely well to take more than a few per cent of the company's total business. says Laurence Heyworth, a telecoms analyst at Robert Fleming Securities in London.

As the five telecoms groups velop their strategic eral will he able to expand their existing operations after Mr Wolfgang Bötsch, the minister for post and telecommunicetions, approves as many as 14 ao-called alternative net-

Veba, for example, wants to build a backbone network in the Rhine-Ruhr area which is supposed to connect companies, institutions and about 10,000 households which are to be used to test multimedia ser-

The three mobile phone oper-ators - DeTeMohil, Mannesmann and E-Plus - have meanwhile received permission to huild their own networks instead of leasing lives from Deutsche Telekom. Other services are also mak-

ing inroads into the German market. American Teleconferencing Services, a Kansasbased company, has been offering andio teleconferences in Germany for less than a year but has already picked up about a dozen regular customers. Bayerische Vereinsbank, one of them, says the service is "significantly cheaper" than the equivalent offered by Deutsche Telekom.

But while the newcomers get ready to take on Deutsche Itself has not been idle. In August, it cut the cost of calls to the US by 27 per cent and also reduced rates to Nordic countries by between 12 and 33 per cent. According to Margrit Sessions of Tarifica, the consultancy which specialises in tracking tariffs, the latest cuts mean that the German rate for calls to the US is now among

the lowest in Europe. -The world's third-biggest telecoms operator also has amhitious plans to shed 60,000 of its 230,000 strong workforce by the year 2000 and raise productivity for each employee from the 1994 level: of DM272,000 to about DM450,000.

### Transformation under way

Continued from page one

multiple telecoms operators compete with and complement

The international platform for this debate is the World Trade Organisation where more than 40 member-nations have been involved in discussions aimed at opening mar-kets in telecoms services for

the past several years. These talks were not part of the Uruguay Round of negotiations under the General Agreement on Tariffs and Trade, which closed last year because of the complexity of the issues

Officials did not beliave it would be possible to achieve a consensus in the timescala. Now it is hoped a global accord can be achieved by April next year when the talks are set to close. Whether international agreement is reached or not, the processes of privatisation and liberalisation can neither be halted nor reversed. The consequences for the world's larger telecoms operators will

be profound. The essential problem for all countries liberalising their telecoms markets is to create a regime which is competitive yet prevents the formar monopoly operator from crushing rivals through a combination of size and control of the "local loop", the final connec-

tion to the bome or office. The US market has been in many respects open for more than a decade. AT&T was split into a long-distance carrier and a group of regional operating companies which were not permitted to compete with each other. Now Congress is likely to approve measures which will free the local and long-distance companies to compete in each other's mar- business has been dramatic.

The Japanese government is pondering the future of the giant Nippon Telegraph and Talephone (NTT) and may decide to break it up into a long-distance carrier and several regional carriers as a way of promoting competition.

And in Europe, the European Commission has given EU member-states the date of Jannary 1, 1998 to dismantle regulations that have allowed national monopolies to dominate telecoms in the region. Privatisation is picking up

speed: Denmark, Germany, the JK, Greece, Balgium, the Netherlands, Italy and Portu-

### Investors may be asked to find \$30bn to fund privatisations

gal have already privatised their telecoms operators or expect to by 1998. Investors may be asked to find \$30bn to fund these privatisations over the next few years, raising questions of an adequacy of

Competition is expected to prove a powerful incentive to efficiency in companies which were formerly state-owned.

The chief beneficiaries of all this activity are the industry's customers, who have seen prices fall rapidly. AT&T points out that in 1945 a 10minute radio-telephone call between the US and the UK cost \$40, day or night, equivalent to \$340 in 1995 money. The actual 1995 charge for a 10-minute daytime call is \$10.93. Against this background, tha

growth of the mobile telephone

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Improvement in semiconductor and radio technology have brought down the price of both handsets and services. Conservalive estimates suggest some 251m subscribers will have signed on worldwide by the turn of the century.

The full potential of wireless

technologies is only just hecoming appreciated. According to the US Office of Technology Assessment, "new radiobased services now being developed will use advanced digital technologies to bring a wide array of services to both residential and business

The Federal Communics. tions Commission, which regulates telecoms in the US, raised almost \$10hn this year from the auction of radio frequencies that will be used to deliver next-generation mobile talephone and data services in Europe, the most optimis-

tic forecasts suggest there could be almost 78m subscribers on the networks by the turn of the century from just over 16.3m at present. There are some 400,000 subscribers in eastern Europe. Wireless telephony, with no

need of conventional and expensive infrastructure, may be the answer to the rapid deployment of telecommunications in developing countries. With a number of consortia vying to put satellite based, hand-held phone systems in place, it could bring to reality the dream of communications of any kind, any time and any-

\*Exploiting Competitive Opportunities in Telecommunications; Finance and Development, June 1995; published by The World

### ■ Deutsche Telekom: Operator report by Michael Lindemann in Bonn. Surprise breakthrough

Link-up with Sprint of the US comes as welcome news

When Deutsche Telekom won preliminary approval in mid-July for its link-up with Sprint, the third largest US long distance carrier, the company was sure that this was a sign of things to come.

The good news came just two

months after Mr Ron Sommer,

the former number two at Sony Europe, had taken over as Deutsche Telekom's new chief executive and many believed the surprise breakthrough had been all his doing. The link across the Atlantic with Sprint, one of the key elements in the company's international strategy, may have been helped by Mr Sommer's

arrival The dapper-looking German has considerable international management experience which no doubt added impetus to the talks and his fluent English will have helped get Deutsche Telekom's message across. He is undoubtedly a class act compared to his predecessors who had launched the Sprint deal

over a year ago. But while the US Justice Department made a decision earlier than expected - especially judging by the time it took to clear the earlier link-up between British Telecom and MCI - other important hurdles still have to be overcome.

The DoJ is just one of three institutions which must approve the deal. The Federal Communications Commission the US telecoms watchdog, and the European Commission must still clear the alliance and while Deutsche Telekom



Ron Sommer: Deutsche Telekom's

hopes this will still happen this year, observers are more cau-tious. One reason for the caution is that AT&T and MCI, the other two US long-distance carriers, continue to lobby hard to have the deal postponed until Germany fully liberalises its telecoms market - a aten that is not planned until 1998. Sooner or later, however, the

tie-up with Sprint - which is to be called Phoenix - is expected to be auccessful thereby creating the fourth major global alliance competing for a significant share of the \$500bn world market for international telephone services.

But while Mr Sommer is hoping to win over the US authoritles, he is lighting another battle in Brussels to persuade the European Commission to approve the so-called Atlas joint venture between Deutsche Telekom and France Telecom. Founded two years ago, Atlas is the first step in the

German operator's strategy to become an international tele coms force. However, Mr Karel Van Miert, the EU's competi-tion commissioner, remains to tion commissioner, remains to be persuaded that an affince between Europe's two weeks operators will be good as com-

While Mr Martin Bangemann, the German semmis-sioner responsible for incommunications, has been more receptive to arguments that Europe must create a powerful telecoms operator to take on the global competition. Hel-glum's Mr Van Miart sees things very differently. He has warned both France

Télécom and Dentsche Tele kom that they have a dominant share of the data trans mission market Both companies have, as a result, begun unravelling parts of Atlas including Eunetcom, the unsuccessful outsourcing venture which, according to inc try sources, is believed to have lost millions of dollars. Now Mr Van Miert is looking

for assurances from the French and German governments that they will cooperate with his plans to introduce an article 90 directive in 1996 in order to liheralise certain areas of Europe's telecoms infrastructure before the overall deadline of January 1, 1998.

The directive would, for instance, allow electricity utilities and other owners of telecoms infrastructure to carry data and other services which

are already liberalised. The plans being hatched in Brussels have not delighted Mr Wolfgang Bötsch, the German

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# The UK: Relations between British Telecom and the regulator have deteriorated, reports Alan Cane Review row rumbles on

BT regards it as essential to protect its home market while it persues an aggressive strategy

British Telecommunications occupies an ambiguous position in the UK. On one hand it is the former state-owned monopoly operator which clocks np profits at £111 a second, picks fights with the industry regulator and makes it difficult for rivals to gain a foothold in the UK's intensely competitive market.

On the other, it is a national champion, the largest company quoted on the London Stock Exchange and the third largest quoted company in Europe. It is recognised as a British high technology player fit to mix it with the US giants and is pursuing a daring strategy aimed at making it Europe's leading telecoms company. BT had pretax profits last year of £2.66bn on revenues on £13.9bn.

In the UK it faces competition not only from Mercury Communications, the UK's second largest operator and a number of other more-or-less conventional players including Energis, Colt. MFS and Ionica, but also from the cable television operators.

Permitted since 1991 to offer telephony in addition to entertainment, they are now slowly beginning to make inroads on BT's market share. Michael Hepber, BT group managing director, said earlier this year that 50,000 BT customers a month were signing up with cable operators. It must be said, however, that the challenge from the cable companies, although real, is haphazard and lacks focus.

While the UK has one of the most competitive telecoms regimes in the world, it has also one of the most regulated; as the government has sought to contain BT's advantages as incumbent operator and owner

of the national network. It is an unsatisfactory situation, leading this year to the publication of the most important review of telecoms policy in the UK since the the market was opened to free competition



The shape of things to come: this 'office on your arm' - with phone, fax, videophone and computer - is BT pratory's design concept for the ultimate communicator, worn here by Ronnie Fox, e City of London solictor

in 1991 following the so-called "duopoly review".

Called "Effective Competition: Framework for Action", it is the work of Mr Don Cruickshank, director of the Office of Telecommunications. His aim was to seek ways of promoting competition while removing much of the regulatory frame-

Inevitably, the study deals with the regulation of BT as dominant operator. Its competitors, Mr Cruickshank argues, bave to be givan time and space to establish themselves. Many of these are subsidiaries of large US companies. Sir Iain Vallance. BT chairman, has noted, writing bitterly: "It is hard to imagine UK companies benefiting from such positive discrimination in any other country in the world."

Over the past year, in fact, relations between BT and the regulator have deteriorated. culminating in an unprecedented reference to the Monopolies and Mergers Commission over who should foot the bill for "number portability" measures to allow customers to keep their number when

changing operator. BT claims to be, in principle, in favour, but argues that its shareholders should not have to pay to make it easier for customers to defect to competitors. Mr Cruickshank clearly helieves BT is simply using delaying tactics to slow the advance of the cable operators.

## **Practical reforms**

The review contains a number of practical reforms. The cap which prevents BT from raising line rental charges by more than a specified amount is abolished, opening the door to lower call charges. Fees called access deficit charges which, in theory, BT's competitors pay the UK operator to operate and maintain the national network they are all obliged to use, are also abolished. (In practice, only Mercury paid ADCs, and then only for certain types of call).

The chief thrust of the review, however, is a proposed change to BT's licence which would essentially outlaw any kind of behaviour which Mr Cruickshank deems anti-competitive and give him power to punish it. It is possible BT will find this unacceptable. triggering another referral to the MMC. It was already uncomfortable with measures Mr Cruickshank wanted to make it easier for him to check whether the company was unfairly cross-subsidising the various different parts of its business. The new licence condition, BT believes, makes him judge, jury and executioner in

his own court. It is essential for BT to protect its home market while it pursues an aggressive strategy overseas, from which it bopes it will emerge as Europe's leading telecoms operator by the turn of the century.

It is forming a series of alliances with companies in each of the leading European economies, to be in a strong position to challenge for operator licences when the European market is thrown open on January 1, 1998. So far, the scale of the ventures are small, the funds committed are limited; and the company is not making profits in mainland Europe. But if the gamble pays off, the

rewards could be large. In Germany, Europe's richest market, for exampla, it has joined hands with the industrial group Viag to form Viag Interkom. It is offering business customers the most it can under the existing rules: data services and intra-company private voice and data net-

In Italy it has an alliance with Banca Nazionale del Lavoro called Albacom, aimed at offering similar services to the ton 3,000 medium to large companies, while in Spain it has a 50 per cent stake in Megared, a data transmission company owned by Banco Santander.

The aim is to fill the remain ing gaps in the jigsaw with similar alliances. BT's princinal international vehicle is Concert, the result of an alliance with MCI of the US, in which it has a 20 per cent

## Strategy

Concert is the beart of BT's international strategy. It began operations in June 1994 and provides international telephone and communications services for multinational corporations. According to the IIK -based consultancy Ovum: "It allows companies to link their voice and data communications in offices across the world through networks that seem private but are provided and managed by Concert".

Not all BT's overseas ventures have been successful, however. Its Australian subsidiary earlier this year sued the New South Wales government and Telstra, the Australian national operator after the breakdown of an "outsourcing" deal through which BT was to bave provided telecoms services to government agencies.

BT's complaints about Telstra's behaviour brought to mind similar grumbles from BT's UK competitors about BT's competitive strategies, It is never easy to win market share from a well-entrenched national carrier, BT's European odyssey will be no push-

View from the Top - Sir Iain Vallance, chairman of British Telecom: see page 19

The company's new head has won plaudists for his managerial skills and track record

After months of uncertainty and upheaval, the political masters of France Télécom have replaced Mr Marcel Roulet as chairman at the stateowned group and ontlined their strategy for the telecoms

Michel Bon, named as the company's new bead earlier last month following the surprise rejection of the post by François Henrot, is in charge of implementing this strategy. His performance will determine whether France Télécom can adapt to the ending of its monopoly and the arrival of fierce competition following the liberalisation of the European telecoms market from

At the heart of his mission. and the government's policy, is the preparation of a controversial reform of France Télécom's legal status. François Fillon, the minister for information technology, describes as "nrgent and vital" the reform, which will transform the operator from an arm of the state administration to a normal company with its own share capital.

The reason for the urgency is that the reform will allow the sale of stakes in the company. This in turn will enable France Télécom to seal strategic alliances with industry partners, notably Deutsche Telekom, and to strengthen its competitive position in the liberalised telecoms markets of the post-1998 period. The reform will also enable France Télécom to raise funds for the massive investments required in the developing markets of telecoms and multimedia.

The problem is that reform is highly sensitive. Trade unions at the French operator are staunchly opposed to a change in its legal status, fearing it will clear the way for privatisation and job cuts. A strike by three-quarters of

the company's 150,000 employees in 1993 forced the government to back down from a previous attempt at reform. This

time around, union leaders are making similarly combative sounds. "We are totally opposed to reform and privatisation," says an official at SUD, one of the largest union groupings at France Télécom. He says the union is talking with its counterparts at the operator about forming a united front against reform. Elections for the company's staff councils later this antumn are likely to further exacerbate the battle against

the proposed changes. Mr Fillon believes such opposition can be overcome. There will be an intensive dialogue," he says, claiming the company's staff can be convinced of the need for reform and reassured ahont

their own positions. To help with Mr Bon'stask of reassurance, the government has pledged to retain e majority stake in France Télécom. "We want it to he a model of a public sector service," says Mr Fillon. He adds

## Trade unions strongly oppose changes in their legal status

that employees will retain their civil servant status and the consequent safeguards concerning employment, pay increases and career scales.

Whether this will prove enough to allow reform is one vital question facing the French operator. Another is wbether the government's reform plan will help win approval from regulators for France Telécom's vital strate-The European Union's com-

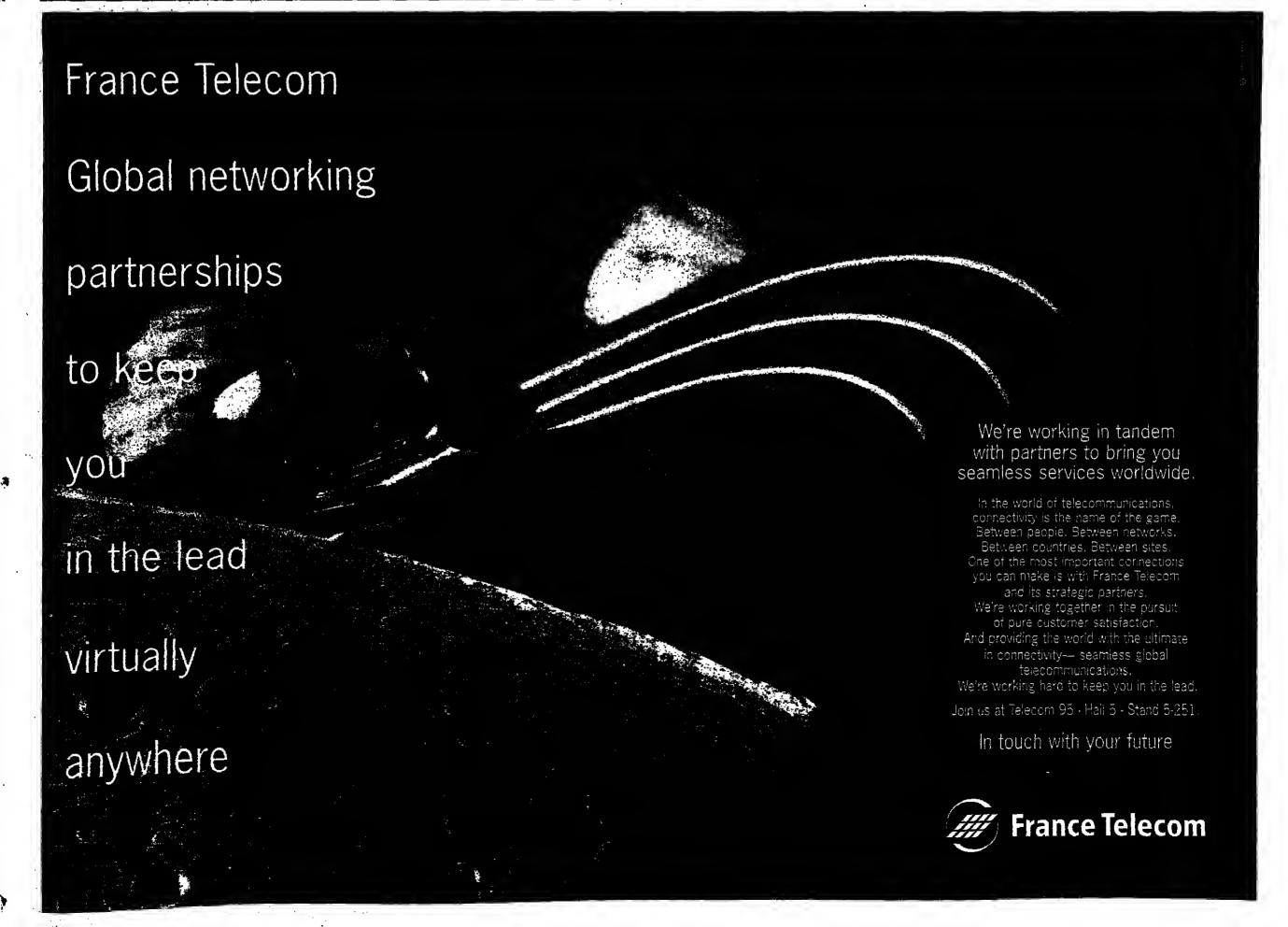
petition authorities are weighing the planned Atlas alliance between the French operator and its German partner. The US Federal Communications Commission is also scrutinising the further alliance between the two European companies and Sprint of the US. The alliances will allow France Télécom and its partners to take on the other global giants in the telecoms sector. Not surprisingly, these are resisting the proposed projects. AT&T of the US, for example, is lobbying hard against a green light. For its part, FCC says its decision will be partly influenced by the ownership status of the French and German operators.

French authorities express confidence concerning approval for the projects. partly because of steps taken to allow increased competition in the domestic market. Utility companies such as Générale des Eaux are competing with France Télécom in mobile communications and are girding for hattle in fixed network telecom services. Alternativa network operators, such as SNCF, the national railway system, bave also been granted approval hy the state telecoms regulator. Such union, regulatory and competitive battles add up to a formidable challenge.

But the new chairman bas several cards up his sleeve. The 52-year old head of the ANPE, the national unemployment agency, arrives with skills. He also brings experience from the private sector. Although a product of the Ecole Nationale d'Administra tion, the elite university which provides a training ground for top civil servants, he beaded the Carrefour supermarket group before moving to tha

"The challenges for France Télècom lie increasingly in marketing, commercialisation and responding to consumer ernment official. "The emphasis must be away from engineering feats to selling products in the market place".

Perhaps the strongest assets in Mr Bon's hands, however, are the strengths of the French telecoms giant. Although much of France's public sector industry has been blighted by inefficiency and bureaucracy, France Télécom has developed into a strong and lucrative organisation. In terms of lines operated per employee, one measure of productivity, it scores more highly than Britisb Telecom and Dentsche Telekom.Last year it recorded net profits of FFr9.2bn (£1.18bn). Maintaining sncb profits after the end of Europe's telecoms monopoly will, bowever, be a tongh task.



## 4 INTERNATIONAL TELECOMMUNICATIONS - Eastern Europe/Russia

■ Eastern and central Europe: Hungary was a regional pioneer in bringing in foreign partners to modernise telecoms, writes Anthony Robinson

# **Kace to update national network**

Former communist states are selling strategic stakes to raise finance and gain telecoms technology

"By the year 2000, SPT (the Czecb telecoms company) must become e customer-friendly, world-class, financially sound, competitive company and be strong enough to survive as part of the global telecommunications market, albeit small by world standards."

These are the ambitious words of Mr Karel Dyba, the Czech minister responsible for co-ordinating the partial priva-tisation of SPT. He also has the country's out-dated and inadequate telecommunications system

There is substance to the ambition, too: shortly after Mr Dyba laid out these aims, the Czech government finalised a \$1.45bn (£900m) deal with a Dutch-Swiss consortium at the end of June for a 27 per cent stake in SPT.

His goals are widely shared throughout central Europe, which is leading the rest of the former communist world in the long march towards modernisation of their telecommunications systems. Telecoms are recognised as an essential tool to facilitate reintegration of the formerly isolated communist states into the global econ-

The Czech government has managed to defice its objectives more clearly than most. But throughout the region, selling off strategic stakes in the formerly state-owned monopolies to western companies is seen both as a source of best way of gaining access to the new technology needed both to upgrade the domestic system and link up to global

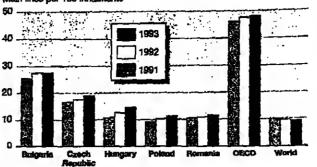
Hungary was the ploneer in bringing in foreign partners to modernise its national telecommunications network, although the collapse of the Soviet empire in 1989 led to a rapidly growing number of city or regional mobile telephone linkups aimed principally at the lucrative business market. Quick to install and highly profitable, cellular telephone systems have been set up in the capitals and big centres of most former communist states. initially to cope with the immediate needs of the foreign investors and businessmen who flooded into the area, but increasingly to serve the fastgrowing army of home-grown

The first big privatisation investors in the modernisation of nationwide trunk telephone monopolies took off in December 1993 when MagyarCom, a US-German consortium of Ameritech and Deutsche Telekom, paid \$875m for a 30.3 per cent stake in Matav, the Hungarian state telecoms company. The government is final-ising its strategy for selling off a further 40 per cent in Matay. primarily to raise in excess of \$1bn, of which the bulk will be earmarked not for modernising telecoms but for reducing Hungary's large foreign and domes-

wheelers and dealers.

Magyarcom has made clear Its interest in transforming its existing minority stake into a majority holding, but this is politically sensitive for a socialist-led coalitioo government which would prefer to offer stock to a combination of much-needed finance and the passive foreign investors, such Central and eastern Europe

Main lines per 100 inhabitants



pension funds, and through a forint denominated public offer to domestic investors through the Budapest stock

Throughout eastern Europe, privatisation of telecoms and other ntilities requires deft. handling, both to assuage popular suspicion about "selling the family silver" to foreign companies, and to rein back the ambitions of the often technically competent but commercially inexperienced managers of the national telecom compa-

Thus far, the Czech government, led by Mr Vaclav Klaus, appears both to have laid out its goals more clearly than most and to have demonstrated most sophistication in tackling the complex political. regulatory and other non-technical issues involved in the transformation of this vital economic sector.

We worked to persuade Czech customers that opening up SPT to foreign investors was in their interests, We explained that it was the best way of achieving faster access, cheaper calls and closing the technological gap with the rest of the world," says Mr Dyba.

Bnt the Czech government was also prepared to spell out some harsh bome truths to the managers of SPT, who were reminded they were not the owners of the then still wholly state-owned company and therefore not in a position to impose their own corporate vision on the future shape of Czech telecommunications

Broader political consider-

ations also affected the Czech government's decision to choose telecoms companies from two small European countries in preference to the French, German and Italian-led consortia also bidding for SPT. The Czechs were wary of becoming too economically dependent on Germany, whose Deutsche Telekom is playing a key role together with Credit Suisse First Boston in modernising the telecoms of neighbouring Hungary; reluctant to get too closely involved with France Telécom after bad experiences in previous deals involving Air France and Total, and wary of involvement with Stet, the Italian telecoms

Money proved to be a second-ary consideration, even though the keen interest of all bidders

company.

in securing the SPT deal led to a highly advantageous result for the Czech treasury, well in excess of the "billion dollar" estimates widely bandied about before serious bidding

Mr Dyba, for whom piloting the partial privatisation of SPT through the shoals of competing bids and egos was e political test, generously gives much of the credit to his bevy of foreign advisers, including bankers J P Morgan, lawyers Squires Dempsey, Saunders, and consultants Arthur D Littie. They belped tie up the deal in a way which achieved an ultimately quick and clean

decision by the Czech cabinet. While Hungary and the Czech republic have held the telecoms limelight to date, significant investment has taken place in modernising telecommunications in smaller countries such as Slovenia, and to a lesser extent Slovakia, the Baltic states, whose desire for modern telecommunications also reflects their need to break eway from the Moscowdominated telephone links of the Soviet period, and in Romania and Bulgaria.

Romania has concentrated on upgrading its trunk lines with optical fibre lines. In July, for example, Siemens won a DM55m (£24.4m) contract to install a 3,200km long optical fibre digital network for stateowned Rom Telecom. This is the second stage of an eventually 5,000km long telecom network linking towns of which the first 1,700km has already been completed by Italy's Sirti Spa and Tomen of Japan.

But Poland, the most popu lous country in the region with the largest and fastest growing economy, is likely to be the main focus of attention over the rest of the century. A recent report by International Technology Consultants, a Bethesda based US company, said Poland represented "viring... ally unlimited business opportunities in communications.

Telekomunikacja Polska the state-owned company, has invested over \$1bn over the last five years in upgrading the trunk network and expects to spend another \$5bn over the next five years, according to Mr Andrzej Zielinski, the telecommunications minister. But Poland has been slow to start. privatisation of Telekom Polska, and plans are still being drawn up for stage-by-stage privatisation over the next decade.

communications law is expected to inject competition by allowing local private telephone operators to set up localised "loops". These are expected to account for 20 per cent of the telecoms market by the end of the decade.

But a note of caution is required. In August, the telecommunications ministry announced tender terms for two mobile telephone operating licences, each worth between \$200m and \$400m A. long list of companies; judiciing AT&T, Bell Atlantic AS West, British Telecom and Cable and Wireless have shown interest.

The process is being anxiously watched by existing mobile phone operators Centertel a joint venture between Telekom Polska, Ameritech and France Telecom + Four years ago the foreign pertners paid \$75m to the Polish government on the understanding that one of the GSM licences now on offer would be reserved. for them. It remains to be seen whether this understanding will be honoured.

Russia: Rostelekom, a semi-privatised company, is involved in some potentially enormous projects, reports John Thornhill in Moscow

# nxiety over pattern of developments

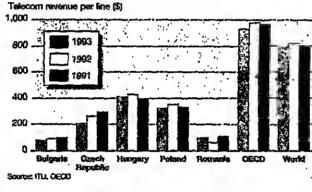
A patchwork quilt of cellular, wireless and fibre optic telephone networks is now spreading across the country, but the main focus is on the most lucrative markets

Foreign visitors to the former Soviet Union used to complain about many things: botels without bath plugs, empty restaurants without free tables: and telephone lines which were creckly, constantly engaged and subject to strange interruptions from coughing

KGB eavesdroppers. But, like so much in the former Soviet Union, the country's telephone system is changing rapidly. The formerly closed society is opening its communications markets to the outside world with extraordinary speed. There scarcely seems to be a foreign telephone operator that is not contemplating some investment in the potentially vast new market of 150m. But one of industry's concerns is that much of this development is unplanned. Paradoxically for a country that was famed for central planning, Russia's ministries appear to have little concept of how the industry ought to

There are fears that telephone operators will simply cream off the most lucrative business markets, ignoring the needs of the remote regions. Already, long-distance call volumes are declining in some

outlying parts of Russia. Industry experts suggest that historically it has been national telephone monopolies which have built comprehensive country-wide networks, subsidising loss-making infrastructure projects with profits from other lucrative markets. There appears to he no such imperative in modern Russia. There is certainly a massive Central and eastern Europe



need for new developments throughout the country. In Soviet times, the telephone market was given a low prior-Ity and its evolution was closely monitored by the intelligence services. It is estimated that only 7 per cent of the population had access to a telephone in Soviet times, with some individuals waiting for as long as 36 years to be connected. From this low base, the telephone market has been growing rapidly; according to some estimates. Russia's 28 per cent compound annual growth rate for international traffic volume was second only to India's between 1983-93.

The dominant participant in Russia's telephone market is Rostelekom, a semi-privatised company estimated to control more than 90 per ceot of domestic long-distance and international traffic. The company, which has a licence to operate such eervices until 2004, makes the most of its near-monopoly position and has already succeeded in raising the price of international calls to world standards and - since November 1994 - index-

ing its tariffs to future rates of Rostelekom is one of the few Russian companies to have heen andited according to international accounting standards and appears to be highly profitable. Earlier this month,

completed the eudit, estimated Rostelekom had made pre-tax profits of \$130m (£81.2m) on revenues of \$837m in 1994. Its

net income was \$30m. A recent research report on Rostelekom by Brunswick, e Moscow-based stockbroking firm, suggested the company should be able to increase profits substantially in coming years, benefiting from the high growth in international traffic and increasing tariff rates.

Although the company has been dogged by peyment arrears, it also has good cash flow with which to finance infrastructure spending. It has hired Merrill Lynch, the US investment bank, to advise it on its future financing needs amid talk that it will soon seek to raise money on interna

tional capital markets. Rostelekom is involved in some potentially enormous projects. The most ambitious of them is the Russian Overlay Network, which aims to con nect 50 of Russia's biggest cities with 50,000km of fibre optic cables. The venture, labelled the 50 by 50 network, includes several Russian operators. US West, France Telecom and Deutsche Telekom, and would require tens of billions of dollars to reach completion within the next 10 years. But the venture has made slow progress because of the doubts the uncertain legal and investment climate in Russia and larly in the cellular sector. The resistance from local Russian telephone operators.

But four other big infrastructure projects to connect Russia with international markets are making swifter progress. Last year, Tele Denmark and Roste-lekom co-operated to build a fibre optic cable linking Russia and Denmark, and an eastern gateway to Japan and South with help from Siemens. A southern gateway, linking Russia, Ukraine, Italy and Turkey is due to be completed next year with an International exchange in Rostov-on-Don. And the Japanese Eximbank has lent \$200m to Rostelekom to belp finance a Trans Siberian link, which will give 20 industrial centres in central Russia access to long-distanca

and international dialling. But there are many telephone projects in Russia which are developing outside the purview of Rostelekom, particu-

chirruping of mobile phones in Moscow's smartest restaurants is now a feature of Russian life. The US Andrew International Corporation is also pressing ahead with a \$500m fibre optic project to connect

Moscow with the east Asia. Some projects have been aimed specifically et Russian business customers who are fast developing a need for the latest in telephone services. For example, Sovintel, a joint vecture between Rostelekom and the US GTS group, has just established an integrated digital network in co-operation with Nortel and British Telecommunications offering Moscow businesses digital voice, video conferencing and electronic mail facilities.

The venture claims Russia's reletive backwardness has effectively enabled it to skip a generation of telephonic services, and some customers now have access to more sophisti-

leaders are also showing an interest in developing telephone networks as they jostle with other areas for economic edvantage. A novel wireless telephone system designed by Hughes Network Systems of the US and Alcatel-Alsthoni of France has just been created in the semi-independent republic of Tatarstan. When launching the service earlier this year, Mr Mintimer Shaimlev, the Tatar president, said he saw many advantages in encouraging the development of such modern infrastructure to attract other investors to the region. This system could

cated services than those gen-

Some of Russia's regional

erally available in the west.

to the area's economic and social well-being". As Moscow's grip on the control of economic life diminishes, western companies are hoping there will be many more such regional initiatives.

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# Deutsche Telekom alliances

Continued from page two:

minister for telecommunications, because it means more competition for Deutsche Telekom ahead of its crucial priva tisation next year. However, both the minister and the company are likely to co-operate with Mr Van Miert because Atlas is the cornerstone of Deutsche Telekom's international strategy. Greater liberalisation of infrastructure in Europe before 1998 could also help the Germans and the French argue the case in Washington for an alliance with Sprint.

Getting Atlas and Phoenix off the ground would make. Ukraine in conjunction with Deutsche Telekom a powerful force in international telecoms

- at least as powerful as it already is as the world's third biggest operator in sales terms with turnover in 1994 of DM61bn. But while the grand strategic alliances are being engineered at the company's headquarters in Bonn, the company is already making inroads into several local markets especially through DeTe-Mobil, its mobile phone subsid-

DeTeMobil has a stake in Mobile Telesystems, e company which built and now operates the first digital telephone net in Moscow. The Germans are also operating a mobile phone net in the local partners.

The most ambitious move

was made earlier this year when DeTeMobil paid DM586m to take 25 per cent in Satelindo, an Indonesian telecoms group which was awarded the archipelego's first mobile phone licence. Industry executives suggest DeTeMobil paid too much for the stake despite the strong international competition. De'reMobil's investment could pay off because of Indonesia's dynamic economy and because its 17,000 islands are better suited to a mobile phone network than to fixed telephone networks.

Deutsche Telekom also holds a 30 per cent stake in Matav, the Hungarian telecoms operator, together with Ameritech, the US regional operating com-

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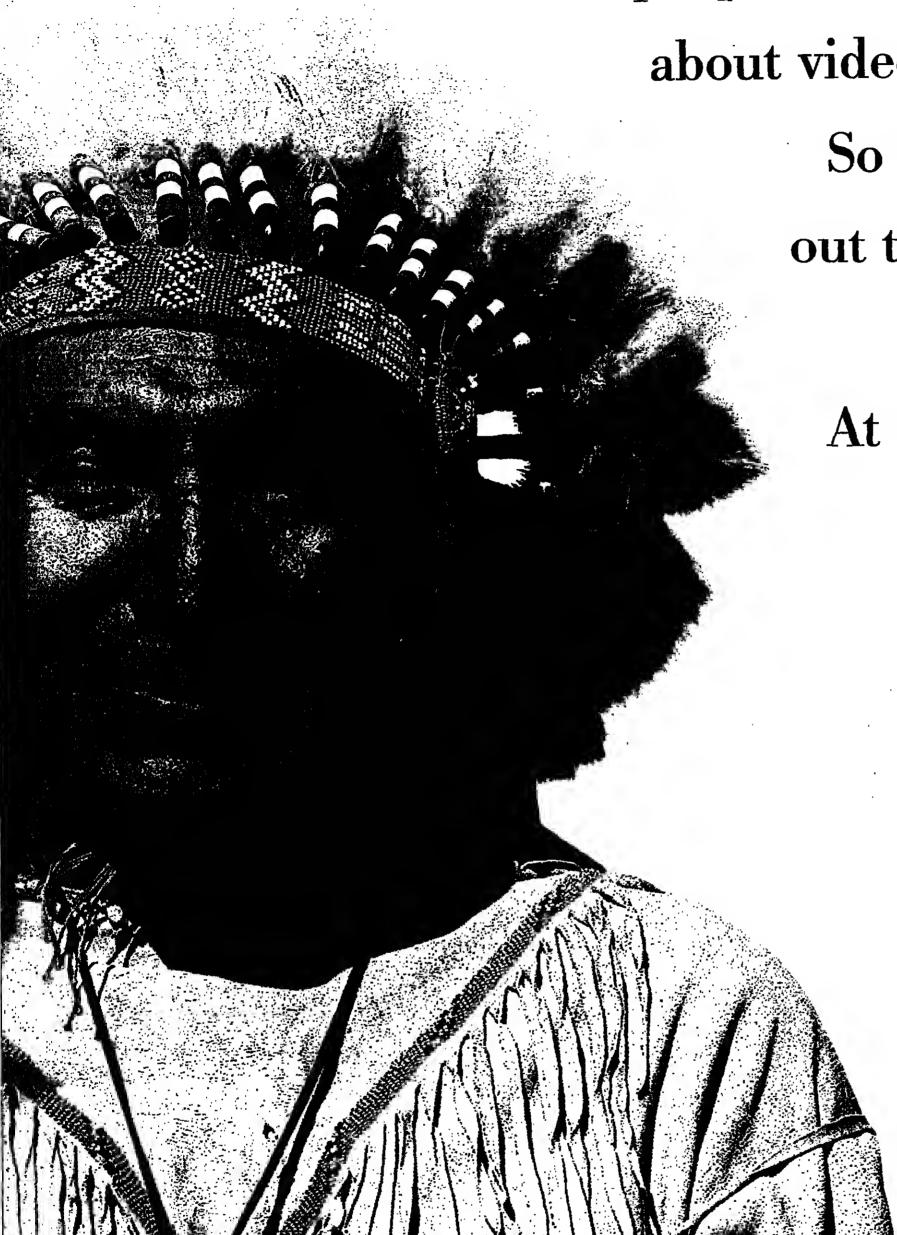
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Italy: The privatisation of Stet, the telecoms company, is perhaps the most eagerly awaited of all forthcoming state sales, reports Andrew Hill

# Squabbles delay Stet sell-off

Simplification and restructuring still leaves three state-controlled companies

The Italian telecoms sector has been standing on the brink of important liberalisation for years. Within the last 18 months, however, a combination of internal and external pressure has pushed Italy's state-cootrolled telaphooe companies over the edge.

How well they survive depends on the managerial and technological skills of the companies themselves, but also oo a number of variables: how strongly the Italian governmeot (and parliameot) push for liberalisation; the success of privatisatioo; and the judgemeot of partners and competitors about the prospects for further development of the Ital-

It is still valid in Italy to talk about state-controlled telecoms companies in the plural, because in spite of recent simplificatioo and restructuring. responsibility for Italian telecommunications is divided between three main companies. The main change bas beeo the formatioo and stock market listing of Telecom 62 per cent stake in Stet either Italia during 1994, following a this year or next. merger between Sip, the qooted domestic operating company, and four other statecontrolled companies.

At the time of the merger, Telecom Italia was the sixth largest telecoms operator in the world by turnover, which reached L29,100bn (£1,804bn) in 1994. In July this year, Telecom Italia demerged its highly prof-itable mobile telephony busioess into a separate company called Telecom Italia Mobile (TIM).

Both these companies are in turn cootrolled by Stet, the quoted telecoms bolding company which also has investmeots in manufacturiog (through Telsi, the name for the new company formed from Italtel and Slemens' Italian manufacturing interests); project planning and installation (Sirti); publishing, telematics aod marketing (Seat); and informatioo processing (Fin-

All three companies - Stet, Telecom Italia and TIM - are quoted in Milao, and Stet shares were recently listed on the New York Stock Exchange. Investors' atteotioo bas cooceotrated oo Stet, however, because IRI, the state holding company, is planning to sell its

The privatisation of Stet is perhaps the most eagerly awaited of all forthcoming state sales in Italy. But the sell-off has been delayed by continued squabbling in the Italian parliament about the structure of the regulatory authority necessary to oversee the Italian telecoms sector.

The absence of a regulatory authority is certainly a handicap for telecoms companies operating in Italy - both Telecom Italia and its competitors. It means everyday disputes about tariffs, or the interpretation of particular regulations. have to be settled by bodies with more general powers such as the antitrust authority, government committees or, in the

Privatisation would give a strong psychological boost to Stet and Telecom Italia, but analysts believe liberalisation is more important than who owns the former state companies. As Mr Francesco Chirichieno. Telecom Italia's chief executive, said in a letter to employees last month, on the first anniversary of the company's formation; "Telecom Italia is an entrepreneurial reality which is healthy, technologicompetent and which is learning to compete in an open mar-

Already Telecom Italia faces most of the European operators as direct competitors oo the Italian market. At the moment, the likes of British Telecom and Cable & Wireless of the UK, Unisource, the European telecoms alliance, and

Stet has been seeking a global alliance to crown a series of smaller investments

AT&T of the US, are offering mainly business services. although they are all determined to challenge Telecom Italia across the board once liberalisatioo opens up voice services to full competition.

overseas

A oumber of new joint ventures have also been formed. aimed specifically at challeoging Telecom Italia's dominance in business services. BT has linked up with Banca Nazioncally advanced, professionally ale del Lavoro, ooe of Italy's

Spain: EU liberalisation requirments will be met in full by 1998, reports David White in Madrid

biggest banks, to form Alba- alliances with Olivetti. com, linking the British company's expertisa with the bank's existing communications infrastructure. Olivetti, the Italian computer group. has formed Infostrada with Bell Atlantic, the US telecoms company, to offer business ser-

Perheps most importantly. Omnitel Pronto Italia - Italy's second operator of GSM digital mobile phones - is set to start operations before the end of the year, providing the first direct challenge to TIM's domi-

Competitors are quick to point out, however, that in the absence of infrastructure liberalisation, these joint ventures still depend on lines leased from Telecom Italia, so their growth inevitably means more income for the state-controlled operator.

It also remains to be seeo how solid the joint ventures are. As the Italian market develops, the structure of competition in Italy may change with rivals of Stet and Telecom Italia becoming allies, and vice versa. To a limited extent, this is already happening: for example. Bell Atlantic receotly abandooed plans to take a stake in Stet's multimedia subsidiary in order to pursue its

In any case, Telecom Italia's historic dominance of the market will be difficult to shake. Even in relatively oew areas. such as mobile telephooy, the state-cootrolled companies' long-standing monopoly has allowed them to gain a headstart which it will be difficult for rivals to overtake. TIM, for example, was born earlier this year with a fully-fledged monopoly in analogue mobile telephone services, and a strong lead in GSM digital services, and oow has more than 3m clieots. No wooder its shares were among the stroogest performers on the whole Milan stock exchange in their first month.

Telecom Italia and Stet are also seeking to take advantage of fast-moving technological developments, rather than counting on their traditional monopoly position. In May, for example. Telecom Italia surprised shareholders by announcing that between L12,000bo and L13,000bn of its investment over the oext three years would be aimed at expanding Italy's fibre-optic cable oetwork to reach 10m domestic customers by 1998. Telecom Italia has also signed a L330bn cootract for the construction of an experimental broadband



Mobility in Rome: this couple pauses amid the city traffic ellow the moded driver to make a cell on his mobile telephone Print Senh is

network for the transmission of advanced multimedia ser-

At the same time, Stet has been seeking a global alliance to crown a series of smaller investments overseas (in Cuba and Argentina, for example). At the beginning of August, Stet seemed to have found its partner when it sizned a preliminary agreement with IBM, the US computer company. The agreement envisages a yet been formalised

worldwide alliance aimed at offering business and private clients a range of sophisticated oetwork services. It remains to be seen whether this will turn into the sort of global deal which Stet and Telecom Italia need to underpin their dominance of the Italian market. The deal is not exclusive other partners are being sought - and at the time of writing, the alliance had not

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Anxious caller: stock brokers in Madrid struggle to find positions for their clients in a volatile market. On the telecoms front, too, the stage is set for a big battle in mobile telephone services Picture: Donle Coyle, AP

# Global ambitions

### focus on fast-growing Latin American markets

No one predicted 10 years ago, when Spain was gearing up to join the European Community, that its Telefônica group would become much of a force anywhere outside its home territory. But It is currently the biggest international player in the fast-growing telecommunications markets of Latin Amer-

Building up that position has been a calculated gamble in a bid to achieve the critical size it needs, and to compensate for

the opening-up of what has, op to now, been a captive domestic market

Telefónica is undergoing a rapid and difficult metamorphosis, from what was effectively a state-controlled monopoly, to a privatised market-oriented company in a competitive environment

The change is a difficult one because of Telefonica's important place in the Spanish economy - it has a turnover equivalent to 2 per ceot of the country's gross domestic product - and differing visions about both the pace of liberalisatioo and the government's future role in the sector: An international share place-

to reduce the state's shareholding by 12 per cent to just under 20 per cent. The scale of the operatioo reflects a compromise between the positions defended in the Socialist government by Mr Pedro Solbes. the finance and economy minister, who favoured a larger sell-off, and Mr Jose Borrell, public works minister, who seeks to maintain a guiding state hand during the transition period. But the government stake in Telefonica. which since the 1980s has shrugged off its interests in manufacturing, is due in any

event to be reduced to virtually

zero by 1998.

ment now in preparation is set

The change is necessarily rapid because the Spanish authorities opted not to take on an extra five-year leeway they were offered by the European Union, and instead will comply with the January 1, 1988, deadline for full liberalisation of voice telephone services. Telefónica has up to now had a monopoly in the basic telephone business, with competition in some other services. Before opening up It needs to fill remaining gaps in its territorial coverage in Spain and mora problematically - complete an overhaul of its tariff

The existing structure, with high long-distance rates sub- standard. MoviStar. in October,

sidising relatively cheap local calls, would leave Telefónica in a vulnerable competitive position. Already last year, local call rates went up by just over 30 per cent, while most interoational tariffs were lowered. Analysts calculate that the rebalancing of rates to compare with other European operators will result in an overall redoction of 15 per cent in current terms and 25 per cent in real terms by the 1998 deadline. The stage is set this autumn

for the first blg competitive

battle, in mobile telephooes. Telefonica recently launched the country's first digital mobile service to the GSM a second licensee. Airtel, a consortium vecture including Air-Touch of the US. British Telecom and Spanish financial partners, is due to start up. Airtel estimates the total Spanish market for mobile telephones, will grow to about 3.3m at the end of the century. This compares with a clientele of about 640,000 for Telefonica's original analogue service.

The next battleground is in cable television. A draft law on cable communications -was approved by the government at the eod of last year. The idea is to apply on a local scale the model used on a national scale

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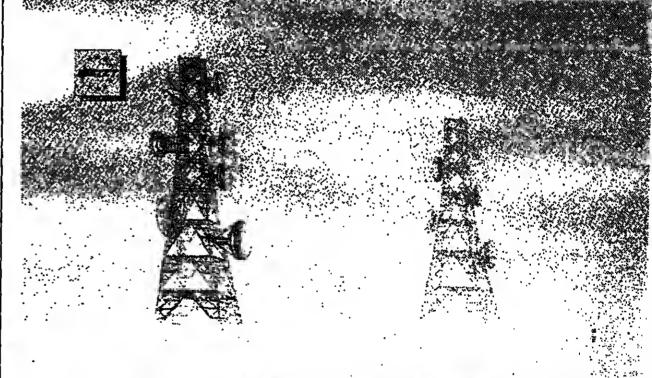


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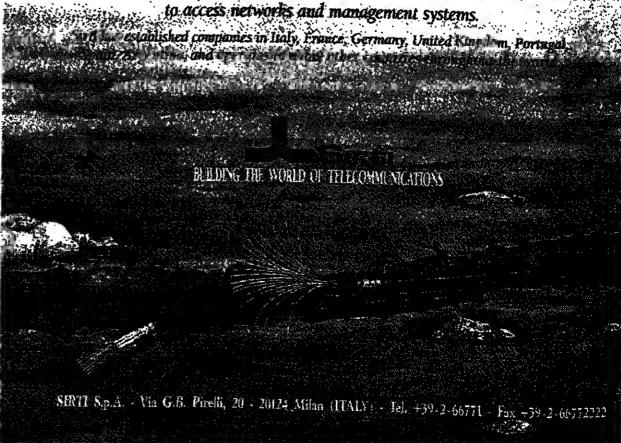
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# AT&T squares up to the Baby Bells

Before the winners and losers can be identified, the market itself needs to be clearly defined

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The US telecoms industry is on the brink of convulsive change - the biggest since the old AT&T was broken up a decade ago. Then, long distance and local telephony within the US were pulled apart. Now, by government decree, they are to be united again. The question is whether another telecoms monster will emerge.

The telecommunications hill now going through its final stages in Congress has proved contentious. The central question has been the terms on which the long-distance and local phone companies will be allowed to compete in each others' markets: and in particular, what the timing will be.

In its original form, the bill imposed fairly strict conditions on the local companies entering the long distance market. These companies - the Baby Bells - are the snrviving monopolists of the old US phone system. They control local access to the customer. which gives them a substantial competitive advantage.

The original hill therefore said, in effect, that the Baby Bells had to have a local competitor on an independent network in their area before they could enter long distance.

After heavy lobbying, that condition was scrapped, so that the local and long distance companies will now be free to enter each others' markets almost immediately.

> HEAD OFFICE? I'D LIKE TO REPORT A SERIOUS ESCALATION OF COMPETITION

Some commentators have

taken the view that this will free AT&T to gobble up the Baby Bells, It is, after all, much larger than they are individually. Its sales last year were \$75bn (£46.8bn), almost as large as the seven Baby Bells put together (the largest, Bell-

South, had sales of \$16.8bn.) Last month, At&T announced that it was spinning off its lucrative equipment business and its loss making computer arm, leaving a \$50bn services business that still dominates the telephone

Besides having deep pockets to fund its investment in local phone systems. AT&T has a strong brand name across the US. It is also the biggest cellular phone operator in the country, a fact which could become relevant as companies vie to become one-stop shops for all the phone requirements of the customer.

Against this, the Bahy Bells have several strong cards. To begin with, they control the chief bottleneck in the telephone system, access to the local loop. At the same time, the level of competition in the long-distance market means substantial excess capacity exists, so that the Baby Bells are likely to be able to offer a total service quickly,

The long-distance companies hy contrast, may find local capacity hard to ohtain, and may be obliged to build their own networks. In other words, the Bahy Bells are likely to get a flying start, and in the race to sign up the customer, that

could prove decisive. The Baby Bells bave another crucial advantage. Over half the long-distance calls originating in their areas - up to 70 per cent in some cases - also

existing rules, a call from Atlanta to Miami, for instance. has to pass through a long-distance operator: but both cities are part of the Bell-South system.

As a result, BellSouth has to give up some 60 cents on each dollar to the long-distance operator, even though the call went from one of its customers

US competition

will not be limited to local and long distance phone companies

to another, using BellSouth's lines and systems. The long-distance company. of course, would retort that it has to give up 40 cents to Bell-South on a long-distance call. just for the privilege of gaining access to the local loop.

Under the new system, though, it seems clear the

terminate there. Under the Baby Bells will be strongly placed to take much of that long-distance operators. There is the further prospect of amalgamation hetween the Bells. whether formal or informal.

and Bell Atlantic, two neighedging closer in recent months. long-distance services, they would command the whole sweep of the Atlantic seaboard from Maine to Virginia.

But competition will not be

confined to the local and long

distance telephone companies. The cahle TV operators, too. will be freed under the legislation to offer telephony to their customers, both wired and wireless. To an extent, this had been happening anyway, as a result of rule changes at the state and local level. But a change at the national level is of great strategic importance to cable industry leaders such as Tele-Communications Inc (TCI) and Time Warner.

business away from the

Take, for instance, Nynex bouring Bells which have been notably with the combination of their cellular husinesses into a joint venture. If those two were to combine in offering

> this is the venture set up by panies - TCI, Comcast and Cox

spender. However, there will The most striking instance of

with Sprint, the long-distance telephone company. In March, the partners said they would invest \$4.4bn over three years on telephony. Of that, \$2.1hn has already been spent on mobile phone licences in the government's so-called PCS auctions earlier in the year, in which the con-

sortium was the heaviest

also be large outlays on wired networks which will also offer

multimedia services. This is a further reminder that the winners in the changing world of US telecommunications will be those who most accurately foresee what mixture of services the consumer will want. Just as the cable companies are clubbing together to get into telephony, so the Baby Bells are getting together to challenge them in

Thus, for instance, Bell-South, Ameritech and SBC Communications have got together with Disney in a consortium which plans to spend \$500m over the next five years on developing new TV programmes which the phone companies can offer customers over newly developed cable networks.

Meanwhile, software companies, such as Microsoft, are prowling round the edges.

looking for ways to exploit the convergence of the telephone the TV set and the personal computer in the American bome. Not only will it take time to identify winners and losers in the new markets: the markets themselves will take a

while to become defined. ■ Global partnership deals: plans by the three hig US long-distance carriers, AT&T, MCI and Sprint.

- See next page.

# Several Moves Ahead



"Connect!"

# Telefónica enters global arena

Continued from facing page:

for GSM mobile telephones: two licences in each designated area, one for Telefónica, and the other auctioned off. Telefónica is already involved in cable TV in Chile and Peru.

In 1998 the company will face a competitor in basic telephony in Spain. However, a recent study by Banco Bilhao Vizcaya one of the Telefónica's "core" banking shareholders - forecasts it will still have some 94 per cent of the market in 2005. According to the study, the number two operator is likely by then to control about 2.5 per cent, with cable operators accounting for just over 3 per cent. The overall business, it reckons, will have doubled from its present level to about Pta2.600bn (£13.5bn).

electron 100

Growth potential on the Spanish market is an important factor in Telefonica's prospects. Although the number of telephone lines in service doubled between 1980 and 1994, to 14.7m. Spain's penetration rate of 37.5 per cent is relatively low compared with the main European or North American markets. in the most populous region, Andalncia, it is less than 29 per cent. In mobile telephones, Spain's penetration rate prior to the introduction of GSM services was a relatively meagre 1.7 per cent. While continuing heavy

investment at home, Telefónica

has stepped into the interna-

tional arena. In June it for-

mally agreed to jom the Uni-

source grouping with a 25 per

cent stake alongside its Dutch.

Swiss and Swedish counter-

parts at an overall cost of a

Pta15bn. Initial plans to merge their data transmission husi-

ness were dropped, however. At the same time, Telefônica has been in lengthy discussions with both GTE and AT&T of the US, with the aim of taking on a partner in its international division.

The company's ambitions as a global operator have focused on Spanish-speaking countries of Latin America, although it also has interests in Portugal and Romania. With its experience of intensive line-installa tion programmes in Spain, it has taken advantage of recent telephone privatisations. Despite recent economic litters in Mexico and Argentina, it is counting on rapid growth in these markets.

Since 1990, Telefónica Internacional, in which the Spanish government has a direct 24 per cent stake, has built up inter ests, primarily in Chile, Argentina, and Peru, and also in Venezuela, Colombia and Puerto Rico. It raised eyebrows by bidding a whopping \$2bn (£1.2bn) in 1994 for a controlling 35 per cent stake in two Peruvian companies, now merged. But Mr Ignacio Santillana, managing of Telefónica Internacional, insists it was "a brilliant operation".

The company has been studying privatisation opportunities in Ecuador and Bolivia and possible entry to larger markets in Brazil and Mexico. Its TLD long-distance phone company in Puerto Rico, in which it has 79 per ceot, is seen as a doorway into the US, where it plans to launch services in several eastern states. For Telefónica, a company which started out in 1924 under US control as a subsidiary of lTT, the move will

move ahead of the rest, Ricoh is the Grandmaster in office automation and the way to avoid checkmate. Ricoh offers strategic solutions: digital colour copiers that provide you with extensive copying and printing possibilities, multifunctional digital combination units that print, copy and fax and network equipment that increases the digital connectivity. In short, Ricoh can

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# Customers want more choice

New technology is empowering customers by giving them more control over how they use telecommunications services

t hardly qualifies as a prediction to say that the next four years should see continued growth and change in world telecommunications.

Telecommunications is the foundation of the global information industry that is a \$1.5 trillion market right oow, and should be worth twice that within the next ten years.

The well-established marriage of com-

munications and computing will continue to move us towards the kind of interactive, multimedla services that Europeans associate with the term Information Society' and Americans call the 'Information Superhighway.'

The current boom in telecommunications infrastructure will continue for at least the oext four years, and probably well beyond.

Wireless communications, the fastest growing segment of the telecommunications industry today, will continue its rapid expansion. As the technological capacity of wireless expands and costs fall, it should emerge in many places as a basic part of communications infrastructure. Perhaps the most significant change of the oear future will be the change in the long-standing connection between telecommunications and the

For most of the last century, the public interest was defined by the providers of telecommunications. But in the near and long-term future, the public interest will be defined by the public itself.

The promise of market liberalisation is making customers restless for real competitive choices. Led by the world's multinational corporations, customers will increasingly expect state-of-the-art technology delivered in a competitive marketplace with all the associated benefits of choice and price.

The winners in the global telecommunications market will be those providers and public policy-makers who commit themselves to meeting customer expectations, rather than clinging to the traditional monopoly market model that is slowly sinking under its own

Monopoly telecommunications providers, with their high-cost structures and inflated prices, are ill-equipped to meet the expectations of multinational corporations and other customers looking for innovative and reliable service at the lowest possible cost. No-one is more aware of this than the mooopoly providers themselves. As the prospect of significant competition romes into sbarper focus, the next few years could see monopoly national services expand services and push down costs. Fear of the real and perceived difficulties of making such a transformation bave caused national regulators in



Robert Allen: 'Customers want competitive choice . . . the global telecoms industry simply cannot ignore their expectations'

many rountries to delay and inhibit the inevitable arrival of real competition.

These fears are understandable, but anfounded. The experience of the US long-distance market proves that bealthy competition delivers henefits not only for customers, but for the industry and the general economy as

Long-distance competition accelerated in America with the break-up of the old Bell System monopoly (of which AT&T was the parent company) in 1984. In the following 10 years, long-distance prices decreased 66 per cent and new services have proliferated as customer choice stimulated the marketplace. Volumes are at record levels, and the long distance business remains an attractive and profitable market.

Similarly, prices dropped substantially and services improved in Britain following the privatisation of British Telecom and in anticipation of rompetition. The LIK market is still too di nated by BT to be called competitive. but the competitive initiatives undertial customers. Speaking from the perspective of AT&T, a former monopoly provider, I can say without reservation that the vibrant competition in the US long-distance market has made us into a stronger, more customer-focused company. In the coming years, competition could very well have the same effect on the state-sponsored monopoly companies in other countries.

The stage has certainly beeu set to put that idea to work over the next four years, most prominently in western Europe and the United States.

The European Union has announced its intention to open its national telecommunications markets to competition in 1998. As I write this, the US Congress is in the final stages of adopting a sweeping new communications legislation that would open up local telecommunications service in America

In both the EU and US, the commitment to these pro-competitive intenway in Britain have already translated tions will be measured by how vigorinto benefits for business and residen- ously they are translated into not ignore them.

marketplace policy. If the EU wants a competitive telecommunications market in 1998, the time to start liberalising market-entry is now. Economies In Europe and elsewhere can ill-afford to wait three years for the service innovations and lower costs that competitive markets can bring.

Given the complexity of tha technology and the enormity of the task of providing fundamental services (as opposed to specialised private line services that are already open to rompetition in some rountriess, it is likely to taka competition several years to take root even after the political barriers come down.

Introducing competition in any telecommunications market will require the co-operation of the existing monopoly providers and an independent regulator to make sure that the rhetoric of open markets is translated into reality.

It is a reality that customers well rompetitive choice. Their expectations have been raised - and the global telecommunications industry simply can

■ US global partnership deals: Important new groupings are emerging, reports Tony Jackson in New York

# ig carriers a-wooing go

The goal now is to provide multinational corporations with a single compatible world-wide system for voice and data

The three hig US long-distance carriers, AT&T, MCl and Sprint, bave each adopted a slightly different approach to global competition.

MCI has formed an alliance with British Telecom; Sprint is in the process of tying up a deal with Deutsche Telekom and France Télécom; AT&T depending on one's viewpoint - is either operating through a looser series of alliances in Europe and the Far East, or going it alone.

The logic of these groupings is derived not only from the strategy of the US companies but - perhaps more impor-tantly - from that of of foreign companies which are seeking access to the US market. The chief purpose of global networks is to serve global corporations. A disproportionate number of these are US-based and the proportion of global traffic originating from the US is variously estimated at between 25 per cent and 40 per

Europe is the other crucial area for multinationals, with Asia - excluding Japan - a much more fragmented markelplace. The chief priority for both US and European telephone companies has thus been to secure a transatlantic

partner. Mr Alain Lebec, joint head of telecoms investment hanking at Merrill Lynch in New York, points out that whereas there are only three big US long-distance companies. Europe has far more players. For a bevy of European suitors, be says, "the dance was on for US partners."

AT&T, he argues, was ruled out since its size made it "the 800-pound gorilla". In revenue terms. AT&T is bigger than Deutsche Telekom and France Telecom together and almost four times the size of BT. Even



Expanding US network: telephone engineers laying

after the divestment of its computing arm and equipment manufacturing operations, it is still a behemoth among carriers. No European company could enter an alliance with AT&T and be assured of equal-

That made MCI the most attractive target, as the next higgest but of manageable size. Deutsche Telekom and France Telecom are thought to have been close to doing a deal in mid-1993. Instead, British Telecom stole MCI from under their noses, paying \$4.3bn for a 20 per stake - the maximum allowed under US regulations.

Sprint was thus the only US partner left. Within a year - by mid-1994 - Deutsche Telekom and France Télécom had snapped it up as a consolation prize, with a similar 20 per cent stake. (The deal has been largely cleared by the US authorities, but awaits consent from Brussels.) That alliance has heen hotly opposed by AT&T, on the grounds that the German and French telecoms markets are still largely closed. and that lack of reciprocity makes the deal anti-competitive. Brussels is likely to impose conditions, but to let

the deal through eventually. AT&T made no such objections to the MCI-BT alliance. But since the UK telecoms market is wide open, that means only that AT&T had no grounds for complaint, not that

it was happy with the deal. AT&T's own arrangements include Uniworld, a joint venture with Unisource, which is in turn a venture formed by the telephone companies of Switzerland, Sweden and the Netherlands. It has also formed

WorldPartners, a loose alliance with Singapore Telecoms and

Japanese

long-distance rompany.
In settling for less formal groupings, often non-exclusive in nature, AT&T may be making a virtue out of necessity. How far this strategy will succeed against the more committed partnerships in which MCI and Sprint are involved remains unclear.

tba

KDD.

This may partly depend on what alliances can be fixed up in Asia. Japan apart, the Asian economies are much more fragmented and are home to few truly multinational companies. They are, however, bugely important as growth markets for multinationals elsewhere.

The likely answer, says Mr Lebec, is for local Asian alliances to be formed, centred on

European and American companies to access Asia," be says. "So far, no-one in Asia has the weight to provide that, so a local alliance is a more logical evolution." he adds. How remunerative these

Australia. "The need is for

global alliances will prove is perhaps another matter. Multinationals, such as Unilever or General Motors, which need to communicate across a myriad of international subsidiaries. are already highly experienced in telecoms.

The ability to offer them a single compatible world-wide system for voice and data is, of course, attractive but equally, these companies can drive a hard bargain, especially among active competitors. And, given that the new telecoms alliances will have high start-up costs to cover, from installing networks and leasing facilities to getting agreement with local telephone companies, competition for high-volume business is likely to be correspondingly intense.

There is one further imponderable. At some point, tha Internet will presumably become sufficiently global -and sufficiently secure - to form the basis of a communications network for some corporations, or at least some of

In that case, the problem for the telephone companies will be two-fold. They need to differentiate their own services enough to make sure they are not reduced to commodity status, and above all, they need to work out how to rollect a more respectable toll for Internet traffic passing over thair wires. But on the whole, it seems

unlikely that there will be winners and losers among the US long-distance companies in their global operations. Rather, there will be winners and bigger winners.

After all, the US is the home

of the information revolution. As such, it retains the lead in a number of crucial lechnologies and applications. Considering the potentially ferocious battle the US long-distance companies face in their deregulated home market, they are wise to make the most of their advan■ Nortel: Manufacturer profile. By Bernard Simon in Toronto

# Strategy pays off with record orders

In the area of networks, Nortel has big ambitions beyond North American boundaries

Northern Telecom unveiled a new corporate slogan earlier this year to celebrate its 100th birthday and to hammer home the transformation that has taken place at tha Canadian nunications equipment

Networks" - is a formal acknowledgment that the big phone switches which put Nortel on the map in the 1970s and 1980s are gradually taking a back seat to the transmission equipment, wireless products, software and satellite applications used to build sophisticated telecommunications net-

The strategy has paid off, so far. From an \$984m (£552.5m) loss in 1993 (much of it made up of restructuring charges). Nortel has rebounded to record earnings of \$79m in the second quarter of this year, Order inflows between April and June, totalling \$2.55bn, were also at record levels.

RBC Dominion Securities of Toronto noted in a recent report that the turnaround has been quicker than expected. Nortel's share price has almost doubled in two years, trading at about C\$50 on the Toronto stock exchange in late August.

Central office switches make up about 40 per cent of Nortel's sales, down from 51 per cent in 1989. Meanwhile, the contribu-tion of wireless products has grown from 3 per cent to 15 per cent. "The switching business is going to grow less for us than the growth of the company," says Jean Monty, who has overseen a top-to-toe sbake-np at Nortel since he took over as chief executive two years ago. "More and more you see us evolving towards offering solutions, as opposed to just offering boxes."

Nortel has also retreated from cable manufacturing. It has sold the submarina cable division of STC. the UK telecoms equipment group which it bought in 1992, and disposed of a large fibre-optic cable factory in Saskatchewan.

But in the area of networks. says Mr Monty, "there's no limit to what we will want to

do - design, build, finance ... As an example of his ambitions, Mr Monty cites a recently-completed turnkey contract with Energis, the UK power distributor. Nortel spearheaded the installation of a fibre-optic telecommunications network in which cable was wrapped around the earth wires of existing power lines. It also supplied a range of equipment, including a DMS-100 public switch.

Mr Monty's strategy also includes a drive to step up Nor-tel's presence outside North America. The central office switching business was centred on the US regional phone

## Nortel is evolving as a 'solutions' supplier

companies and Bell Canade. (Both Bell Canada and Nortel are subsidiaries of BCE, the Montreal-based telecommunications conglomerate.)

As recently as 1989, North America contributed 95 per cent of revenues. That dropped to 67 per cent last year, thanks to expansion in western Europe, Asia (especially China) and Latin America. British Telecom is now among Nortel's biggest customers.

Nortel bought a 50 per cent stake in France's Matra Communications in 1992, giving it a window on wireless equipment using the predominantly European GSM standard.

Earlier this year, it formed a joint venture with Germany's Daimler Benz Aerospace (Dasa). The deal was conceived partly to give Nortel a toehold in Germany ahead of deregulation of the telecoms market there. An added attraction however, was Dasa's expertise in satellite communications.

Most recently, Nortel forged an alliance with Illinois-based



Nortel (Northern Telecom), working with BT and Sovintel, the Russia telephone operator, has established the first end-to-end ISDN (Integ Services Digital Network) connection between Russia and the UK

Antec, which specializes in hroadband network products for cable-TV. The two companies' first joint venture will aim to integrate voice, data and interactive video on a single network for cable-TV and

phone services. One of Nortel's few remaining peripberal investments is its 17 per cent stake in ICL, the UK computer group, which it acquired as part of the STC acquisition. Mr Monty says he is still unsure what will become of the ICL interest, hut considers it a good investment for tha time being.

## Corporate culture

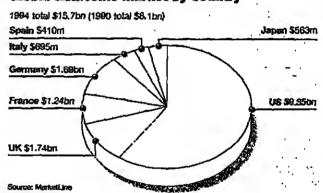
Nortel's corporate culture has also changed in recent years. Mr Monty's predecessor. Mr Paul Stern, was a brasb

American computer industry executive who moved Nortel's centre of gravity towards the US. Mr Monty, a French-Canadian, is more conservative. He has reluctantly allowed bis lieutenants to wear casual clothes at the office, but has no Intention of following suit.

Since taking the reins, Mr. Monty bas re-established Toronto as the undisputed head office. He has delegated more euthority to product and regional manage

However, Mr Monty is con-cerned Nortel has been hiding its light under a bushel. He acknowledges that "we haven't articulated our vision well enough to our customers, our shareholders or our employees." The company is likely to promote itself more vigorously in the coming year.

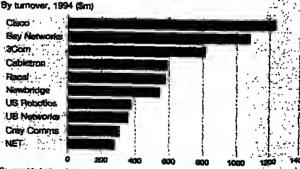
## Global datacoms market by country



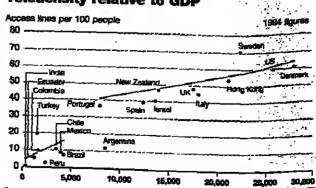
## Forecast global value of the datacoms

1993 (\$m)	Market value	% growth
1995	18,510	17.9
996	20.873	12.8
1997	23.072	10.5
998	24.828	7.8
1999	28,331	6.1
2000	27,773	5.3

Top ten global datacoms manufacturers

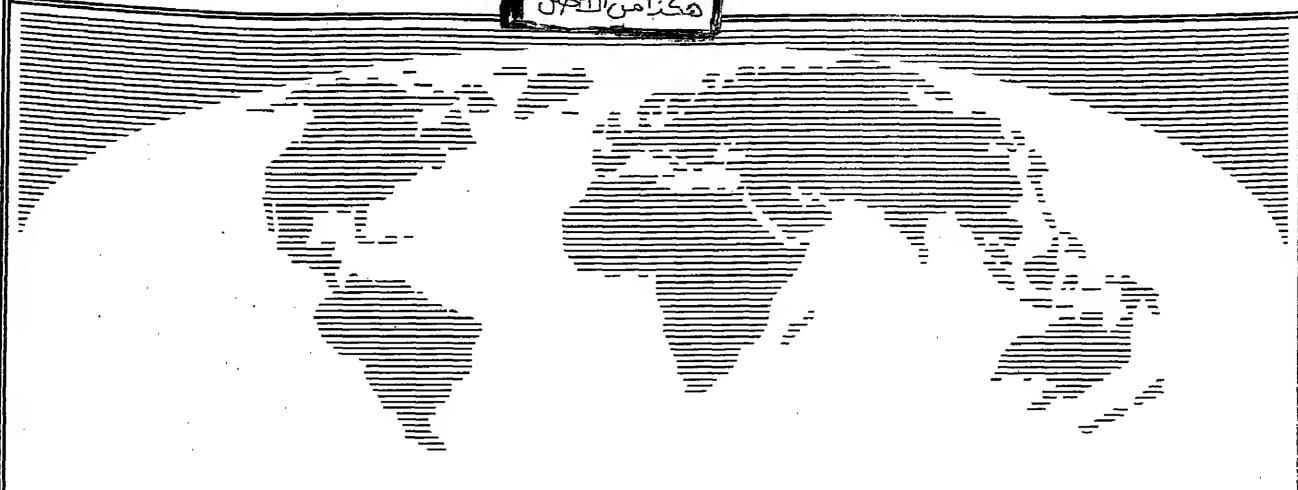


## Teledensity relative to GDP



Forecast value of t	he datacoms	market	by country,	1995-2000	(1993	Sml
Country	1995	1996	1997	1998	1999	2000
US	11,100 2,010 1,412 1,953 798 512 726	12,220 2,257 1,811 2,291 923 591 980	13,155 2,492 1,812 2,625 1,070 676 1,242	2,684 1,994 2,911 1,198 756	4,320 2,839 2,140 3,162 1,290 834 1,746	14,700 2,974 2,292 3,422 1,387 905 2,053
Total	18,510	20,873	23,072		6,311	27,73

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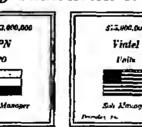
# Global Leadership in Telecommunications

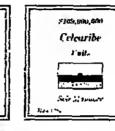
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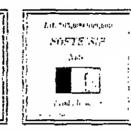




















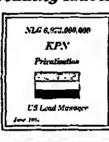


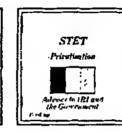












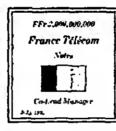




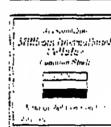






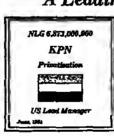




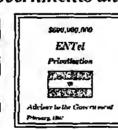


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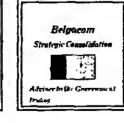














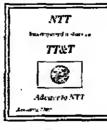


## Long Standing Success in Advising Asian Telecommunications Companies

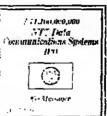


















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With projected revenues of about \$22bn this year, AT&T's new equipment company will inherit a broad array of products. Pictured here rimental optical fibre production at Murray Hill, New Jersey

US giant's new equipment division

## AT&T's break-up is widely seen as a 'divide and conquer' strategy

tions industry," said Boh Bar-ada, vice president of corpo-rate strategy and development

at Pacific Bell, a US Weet Coast regional telephone com-

"For more than a decade,

AT&T has been Pacific Bell's largest supplier and its most

formidable competitor," said Mr Barada. "Consequently, Pacific Bell has been forced to

rely on its major competitor

for the majority of its equip-

ment. That's never heen a

Such sentiments appear to have been one of the primary motivations behind AT&T's

decision to eplit itself into

three separate companies. In a

letter to employees, last

month, Bob Allen, AT&T chairman explained: "It is no secret that our Network Systems business has been

affected by the conflicts that

our Communication Services

Group has been having with

the RBOCs (Regional Bell

Operating Companies), both in

the public policy arena and

increasingly in the market-

"These conflicts foreshadow

similar issues with some PTTs

around the world," said Mr

Allen. "In recent months, it

has become clear that the

advanges of our size and

broad, diverse product line are starting to be offset by the

expense it takes to manage

conflicting business strategies

and coordinate activitlee

across a large, complex enter-

"Our services and systems businesses are at the intersection of tremendous change and

opportunity," said Mr Allen.

This restructuring ensures

that each can follow the path

of greatest opportunity with-

out worrying about bumping

There are, bowever, poten-

tial drawbacks to the break-up

of AT&T. In the equipment

sector, for example, whereas the newly independent equip-

ment company stands to win

reluctant to buy from a com-

petitor, it will in future bave

to compete for the business of

its current sister division -

AT&T Communications Ser-

What is more, over the next

15 months the disruption of

the break-up could detract from the abilities of the newly-

formed companies to compete.

Large scale layoffs are antici-

pated as AT&T eliminates the

jobe of peopla involved in

managing the complex rela-

tionships among its different

Although the company has

so far declined to provide

details, analysts predict that

will be made redundant as a

result of the AT&T breakup.

Moreover, while the Net-

work Systems portion of the

new equipment company

stands to benefit from its dis-

association with AT&T, the

world famous brand name has

been a powerful selling point

for the company's consumer

telephones, an approximately

Yet to he determined is whether the "new AT&T" will

lend its name to these prod-

ncts. Nonethelese, AT&T's

break-up is widely seen as a

"divide and conquer" strategy that will give its telecommuni

cations equipment business

the freedom to compete more

aggressively in the telecommn-

\$2bn a year business.

into each other along the

Competitors

place."

comfortable situation."

The newly-formed equipment business will now have freedom to compete more aggressively in the equipment market. writes

Louise Kehoe

AT&T's plan to split itself into three separate companies by the end of next year will unleash the world's largest manufacturer of telecommunications equipment to compete as an independent entity.

With projected revenues of about \$22bn this year, the stand-alone equipment com-pany will inherit an array of products ranging from network switching equipment and optical fiber transmission lines to home telephones and personal computer modems.

The new company will comprise AT&T's Network Systems Gronp with annual revenues of about \$12bn which makes large network switches. transmission equipment and fiber optic cables; Global Business Communications Systems which makes office products snch as private braucb exchanges, voice mail systems and telephone handsets, with revenues of about \$6.5bn; the Consumer Products division, a consumer telephone producer with annual revenues of about \$2bn; AT&T Paradyne, bestknown for computer modems; and Microelectronics, a \$1.2bn chip manufacturer.

## Research arm

The as yet unnamed equipment company will also house the world reknowned Bell Laboratories as its research and development arm, placing it at the leading edge of rapid technotogy changes.

Bell Labs' inventions include sncb fundamental breakthroughs as the transistor and the Unix computer operating system. The laboratories filed 25,000 patent applications last

As an independent company, the spin-off will be free of conflicte that have recently become a significant barrier to the growth of AT&T's \$12bn Network Systems division.

Although US regional telephone companies are spending billions of dollars annually to npgrade their networks to enter long distance markets and provide multimedia services, some have been reinctant to buy equipment from their future rival.

The Network Systems division's sales growth fell sharply this year, according to industry analysts, from about 17 per cent in 1994 to less than five per cent in the first half of 1995. Competitors, meanwhile, gained ground. Northern Telecom, for example, has seen a surge in orders for network equipment this year.

"Network Systems has suffered guilt by association " with AT&T'e telecommunications services businesses, said Mark Winther, vice president of worldwide telecommunications research at IDC/LINK, a US market research group.

The AT&T network equipment division "bas labored mlghtiiy to maintain a Chinese wall" between its externai customers and AT&T's own communications services division, be noted. "But the inherent conflict of interest . which ... competitore have

emphasised, is undeniable." The break-op will "ease one of the most troubling conflicts within the telecommunica-

# ■ Mexico: Phone call revenues with the US are worth \$2bn a year, reports Leslie Crawford in Mexico City Countdown for a \$7bn market

A new telecoms law has set the framework for newcomers to the industry

eagerly awaited deregulation of Mexico's \$7bn telecommunications market begins in January 1997.

Most of the leading US participants - AT&T, MCI, GTE, Sprint, Motorola, Teleglobe and Bell Atlantic - have already forged strategic alliances with Mexican partners in readiness for the opening of Mexico'a long-distance telecommunications. European carriers have not become involved, largely because 80 per cent of Mexico's international calls are made to

Call revenues hetween Mexico and the US, estimated at \$2bn a year, are the biggest between any two countries in

Teléfonos de México (Tel-mex), privatised in 1990, will lose its monopoly over domestic trunk calls and international traffic when the sector is deregulated in 1997. Telmex. with more than 9m customers. is expected to remain the dominant carrier, although it has also struck an alliance with

Sprint of the US to prepare for increased competition.

A new telecoms law approved by the Mexican congress in May has set the framework for newcomers to the industry and given Telmex and its many would-be competitors their first glimpse of what the industry might look like after

Consortiums will have to be majority Mexican-owned. Concessions will be granted for an initial period of 30 years. Satellite communications will also be opened to private investment. Carriers will be free to set their own tariffs - only Telmex, the dominant carrier, will have its rates capped by the

Providers of local wireless telephony will have to bid for space in the radio spectrum in public auctions. But to the delight of those planning to huild fibre-optic or cable networks, there will be no licence fee to pay.

The law also states that interconnection fees are to be freely negotiated between Telmex, the dominant carrier, and its competitors. If the parties fail to agree on a fee, the Telenmunications Ministry will be the final arbiter.

US carriers and their Mexican partners will be watching



A stock market trader in Mexico ille keeping e watchful eye on

closely when Telmex sets interconnection fees for its own affiliates for the first time in September. They are expected to set the benchmark for the

The bylaws that will govern key aspects of the industry,

however, have yet to be published. These include regulations that will settle issues such as rights-of-way for fibre optic networks, and arbitration rules to settle disputes between carriers. MCI (with its partner Banamex, Mexico's higgest bank) have been awarded a licence to provide long-distance services. They were the first to apply for a concession in July and did so without waiting for the bylaws or knowing what interconnection fees Telmex would charge for piggy-backing onto the local network.

We applied for the concession because the new telecom law has given us enough guidance and confidence to pro-ceed," says Mr Dan Crawford. chief operating officer of the MCI-Banamex venture, named Avantel. The partners plan to spend \$800m in the first phase of their telecommunications project, which will include lay-ing down 5,300km of fibre-optic cables to link the country's three main cities - Guadalajara, Monterrey and Mexico

Other telecoms companies bave chosen to wait for the publication of more detailed regulations, which they say are essary for the completion of their business plans. The government has repeatedly post-

poned the announcement of the telecoms bylaws, which are now expected towards the end of the year.

"Time is running out," says Mr Arturo González Arquieta, bead of a joint venture between Bancomer, Mexico's second-largest bank, and GTE. We are already one year behind schedule. We are being asked to present business plans without knowing the rates Telmex will charge for connecting to the local network. To do so, we need guarantees that the government will be a good arbiter with the clout to force Telmex to set fair inter-connection charges." He points out that Mexico's attempts to regulate competi-tion have been feeble to date.

Mr Peter Hutchison, financial director of Grupo Alfa, a Mexican steel, petrochemicals and food conglomerate which has joined forces with AT&T. says: "Interconnection charges are a critical issue for us, as the level at which they are set will largely determine the profitability of our investment." Alfa and AT&T plan to invest \$1bn over tha next few years on their own fibre-optic net-

Banamex and Bancomer both say they are going abead with their telecoms ventures

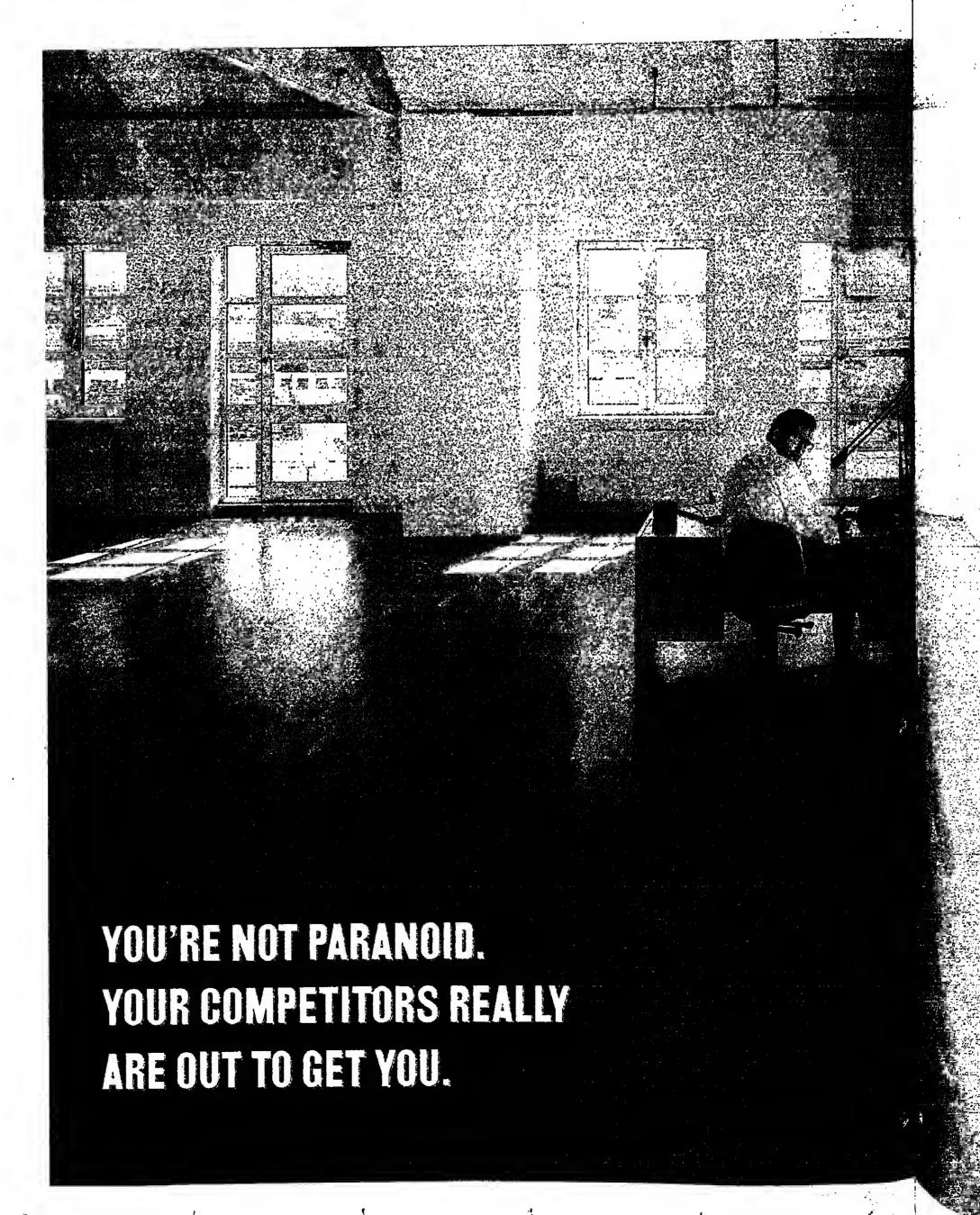
sis, which has hit the domestic banking industry particularly hard. Mexico's two largest banks already have embryonic telecoms networks linking their branches in more than 250 cities, and a large customer

Given that newcomers are expected to focus on the most lucrative segments of the market - corporate customers in Mexico's higgest cities - the government plans to continue subsidising the development of local telephony in rural areas.

"Contracts will be put out to tender," says Mr Carlos Casaeus, under-secretary at the Telecommunications Ministry. "The winner will be the operator who requires the smallest subsidy.

Telmex, meanwhile, is gearing up for competition. It is adjusting tariffs which at present exploit its monopoly over the long-distance market to subsidise local calls.

Mexico's economic debacle. however, has forced the company to halve its investment budget this year to \$1bn. It has formalised an alliance with Sprint, to carry each other's long-distance traffic and to offer a broad range of services including data transmission and calling credit cards.





of late of the State of

■ Brazil: The reformist government wants to open up the telecom market, reports Jonathan Wheatley

# BENVENDO- A cellular market 'ready to explode'

The reformist government of President Fernando Henrique Cardoso wants to open the network to private sector competition

Brazil's chaotic and inefficient telecommunications system is about to be overhauled.

After three decades of government control and bureaucratic management, the network can no longer supply the demands of its customers. Anyone who wants a line quickly in São Paulo, for example, must go to the parallel market, where they can either buy one for up to R\$5,000 or rent one for about R\$150 a month.

The present situation has its roots in the 1960s, when the government made clear its role as a provider of telecoms services. Since then, the network has gradually moved into government hands, in 1988, some 26 local operating companies

Long-distance and internapany which by law must be entirely owned by the govern-

All this has started to change. The reformist government of President Fernando Henrique Cardoso wants to open tha network to private sector competition. Constitutional changes passad in August end the government'a virtual monopoly in the industry (one small private com-

days before nationalisation). New, added-value services such as cellular telephones and data transmission should soon be auctioned to private contractors.

Later, the operating companies could even be sold. The process will take time, but it should deliver vast improvements in the existing network and offer attractive opportunities for providers of equipment and services.

company, Telebrás. public-sector system is its of private-sector management inability to generate invest- of the network, the companies tional services became the ment capital and therefore to monopoly of Embratel, a commet growing demand for sermeet growing demand for ser-vices. Most of the blame for that lies with the system'a tariff structure, which subsidises local services at the expensa of long-distance and international calls. Standing charges and tariffs for local calls are so low

that many local services run at "The key question for the future of the conventional telephone system is tariffs," says Ana Novaes, an industry analyst at Brazilian tovestment

bank Garantia.
"All emerging market networks have used long-distance calls to subsidise local calls. All of them had to restructure

tariffs before privatisation." The present structure does little to encourage efficiency. Companies which make money on long-distance and international calls have to pass this revenue to Embratel, which then shares it out among other

companies in the network. pared by Garantia, residential standing charges in Brazil are less than a tenth of interna-tional levels; local calls cost less than a third of the world average, while international calls are about 70 per cent

more expensive.

Ms Novaes says the cost of international calls will bave to fall to prevent the drain of revenue currently caused by "callhack" services operated by foreign telephone companies.

The communications minis-try's investment, plan to the end of 1998 (the end of the present administration) says the industry should, among other things, double the number of conventional telephone lines from the current 14m, and increase the number of cellular lines from 800,000 to 3m. Over the following four years, it says conventional lines should increase to 38m, and cellular

lines to 12m. The ministry says the first stage will cost R\$34.6bn. That is the amount of investment capital the public sector would generate over four years if tar-iffs were adjusted to international levels. But because the present tariff system will generate just R\$12bn, the ministry

provide the rest. The government is in a hurry to adjust tariffs for two reasons: the network needs the money, and it will be difficult to sell the companies without adjusting tariffs first. It hopes tariffs can be reorganised by the middle of next year.

A change in tariffs, though, faces political obstacles. Not only will raising local tariffs be unpopular, it will also have a distorted impact on inflation

Any significant change in local tariffs and standing charges would show up in inflation. But long-distance tariffs and rents on the parallel market - which will disappear once the todustry can meet demand - are not measured by the indices. Raising basic charges by about 1,000 per cent will be difficult for a government that was elected on its anti-inflation policies.

Privatising the telephone companies will meet evan stronger political resistance. While there is probably a

The biggest failure of the majority in Congress in favour are a popular source of patronage at many levels of municipal and state government.

Delays can also be expected in preparing new regulations for the industry. The constitu-tional changes ended the gov-ernment monopoly but also stated that aupplementary laws covering the industry

must be passed by Congress.

"The real problem with the new regulations won't be getting them through Congre says Ms Novaes. "It will be drafting good regulations in the first place. Brazil hasn't had a regulated private telecommunications industry for over 30 years."

With so many pitfalls ahead, tha government is likely to move first on less contentious, value-added services. Thanks to a grey area in the constitution, cellular networks could probably be opened rapidly. But the government is more likely to wait until supplementary regulations are in place before opening tenders.

## A change in tariffs faces political obstacles

Even so, tha first contracts are expected within the next 12

There is plenty of demand to be met. In the state of São Paulo there are about 330,000 cellular lines in use. Another 1.5m would-be subscribers are on a waiting list at Telesp, the state telephone company.

"The market is ready to explode," says Ethevaldo Mello de Siqueira, editor of specialist magazine Revista Nacional de Telecomunicações. "Any newcomer could set up an 0800 (toll-free) number for registrations and watch the customers come in."

impressive. "For each of its cellular lines, Telesp bills around US\$100 a month in rental and call charges," says Mr Siqueira. "In the United States, companies bill around US\$70." No doubt charges will fall in a competitive market, but Mi

The potential earnings for

service providers are equally

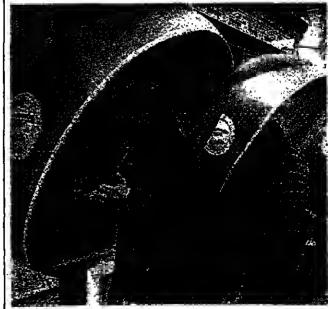
Siqueira says they will stay above international levels for some time. The big prize in the future, after the sale of the state operators, will be private access to international services. How-

ever, Sérgio Motta, communications minister, is ambivalent about selling Embratel. He says it has a strategic role, and if sold would need three to fiva years to prepare for competi-

But if the sector is opened up, the prospects for growth are anormons. Mr Siqueira says Brazil should learn from long-distance operators in

"Even with the lowest international tariffs in the region, Chile bas nine long-distance operators, all making money, ha saya. "As the tariffs go down, the volume goes up. And it keeps on going up." Brazil has a long way to go

before it catches up with competitive telecoms markets overseas. But at least the process has begun.



busy: public payphones in Buenos Aires, Argentina

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the Cocos Island National Park, off the coest of Costa Rica. For more reports on autolite communications, see part two of this survey - page 37

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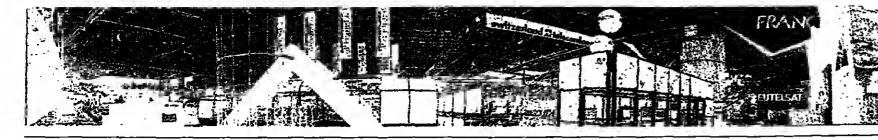
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THE OLYMPICS OF THE TELECOMS WORLD' Record numbers of visitors are expected at Telecom 95 in Geneva, Switzerland. The event, from October 3-11, has attracted the largest-ever number of telecom companies, and is sponsored by the United Nations affiliated International Telecommunications Union, the ITU. The Geneva show has been described by the press as the Olympics of the ecommunications world - a place where reputations can be made or lost. It a world showcase for all that is new in telecom products end services. The previous Geneva event, held four years ago, attracted 132,000 visitors.

■ Mobile communications: The cellular phone is the driving force of the business, reports, reports Alan Cane

# Early promise surpassed

Demand for mobile communications has provided an unexpected windfall for traditional telecom operators

The global cellular phone industry is more than fulfilling its early promise, justifying claims of "truly explosive" growth. While elsewhere such claims could be industry hyperbole, the falling costs of bandsets and services and openly competitive markets bas unleashed huge, pent-up demand for mobile telephony.

Mobile communications, of course, covers a broad range of systems from increasingly sophisticated personal pagers. able to deliver text messages in addition to audio signals, to high speed data transmission equipment. But the cellular phone remains the centrepiece of the business and its principal driving force.

According to Dataquest, the market consultancy, some 27.9m portable phones were shipped worldwide in 1994, It expects the number shipped yearly to expand to 99.84m by the turn of the century.

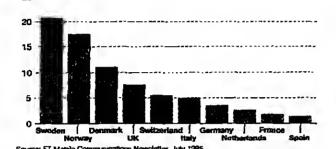
Dataquest attributes this to lower unit cost, a growing consumer market and increasing standardisation: "Leading suppliers of cellular phones are poised to take advantage of a subscriber hase expected to grow oearly five fold to 251m by the end of the decade." It

says.

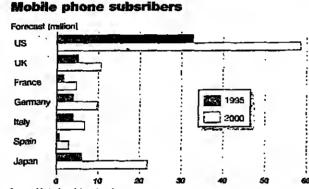
The leaders in the supply of handsets and base stations are Motorola of the US, Ericsson of Sweden and Nokla of Finland. These three companies have about 70 per cent of the global

Western Europe









market for mobile bandsets. All have seen their sbare prices soar in recent months as investors become aware that although the growth of cellular telepbony seems remarkable, it is still a long way from a com-modity market. There is plenty of room for further, spectacular growth. Erlesson, for example, predicts there will be 350m

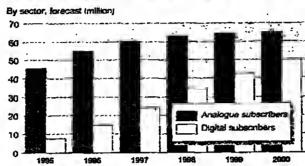
subscribers world wide by 2000. The numbers for mobile services as opposed to equipment are equally impressive. Between 1993 and 1994, the husiness grew 62 per cent in the UK, 84 per cent in Den-

mark and 106 per cent in Portugal. According to the consultancy Mercer Management Consulting, the increase in demand for mobile communications has provided an unexpected windfall for traditional telecommunications operators.

"At a time of modest revenue growth rates in the traditional operator's core husinesses and uncertainty in international ventures, mobile services have sbown the capacity to sustain 30 per cent or greater revenue growth rates, year after year,"

AT&T, the largest US tele-

## Global number of mobile phone subscribers

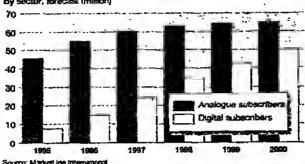


coms company, and the inventor of cellular telephony got out of the business in 1984 believing the market would be too small to be profitable. Last year it bought McCaw Cellular, another pioneer for \$11.5bn which makes AT&T the unchallenged leader of mobile

telephony in the US. It is, bowever, also a time of transition for the industry. bringing with it a number of challenges that bave to be resolved.

• The greater part of the expansion of the mobile phone market is expected to take place in the residential sector. The early adopters of mobile phone services were businesses: they could justify high prices in terms of the value of the service to their operations and were able to write off the cost as a business expense. In developed countries, at any rate, this market is essentially

Residential users, on the wbole, are likely to prove less satisfactory customers. They use the phone less than business customers and are more sensitive to pricing. "Churn" tomers leaving the network or



being excluded for one reason or another - are higher for residential than business customers. And as mobile phone become ubiquitous, the dangers of theft and fraud grow. Migration from the older,

analogue to digital technology - computer language - is accelerating. There are powerful advantages in digital telephony. Systems are less sensitive to fraud, transmission quality is improved and capacity at specific wavelengths is

## Battle looming

There is, however, an equally powerful battle looming over standards. The European standard for digital telephony is Global System for Mobile communications (GSM). With some 6m subscribers already using the system, it is the leading digital wireless technology, used throughout Europe, large areas of Asia and

elsewbere. It is not, however, the technology of choice in the important US market where analnetworks

There has been a lot of



People in all walks of life are now discovering the benefits of mobile telephony: this caller in Jakarta, Indonesia, is using an Alcatel system. Total telecom investment in Indonesia topped \$15m test year

excitement in the US about a technology called CDMA (or code division multiple access) which is said to have advantages over existing standards, sucb as GSM.

Keith Woolcock and Simon Carrington, telecoms analysts with the brokers Smith New Court in the UK have pointed out that shares in a leading developer of CDMA technology, Qualcomm of the US, bave risen by over 50 per cent and now stand at 163 times earn-

Qualcomm, they note, claims that CDMA-hased networks could carry up to 10 times as many phone calls as rival digital technologies. It works a little like military radio, constantly changing frequency to make the best use of the available bandwidth.

ft will be late next year before the technology can be used in a working telphone network yet 11 out of 14 operators in the US have already said they will use CDMA systems. If it delivers what It promises it will go a long way to solving network capacity

problems expected by the end

of the century. Mohile telephony is not simple. There are a least three kinds of services. The first are low cost and low level services of the cordless phone variety, in Europe, the technologies go by the name CT2 (cordless tele-phone 2) DECT (Digital European Cordiess telephone) and PHS (Personal Handyphone

adopted with enthusiasm by the Japanese, Secoud, there are conventional ceilular services offered by operatrors world wide. Analogue technologies include AMPS and TACS; digital technologies are GSM and CDMA

among others.

System). This last has been

Finally, there is the mobile system of the future: the low and medium earth orbit satel-

lite system. A number of consortia are sinking millions of dollars into developing and launching these services which promise to make it possible for customers with hand held telephones to converse anywhere on earth. The consortia include Iridium. led by Motorola of the US, Odyssey led by TRW, inmarsat, the international satellite idephone organisation and Clobal

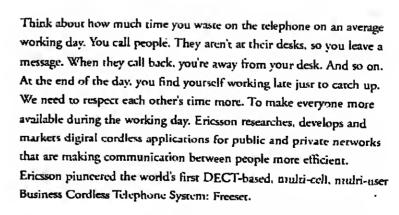
star. The stakes are high and so are the risks. The US Office of Technology Assessment noted this year: "Potential users do not know what the new systems will really offer and technical details remain to be finalised". It will be the turn of the century before the winners and losers in this race can be identified.

# "Being able to answer all my business calls right away gives me more spare time."

RENÉE 'T HART, Secretary to Distribution and Sales, Ericsson Business Mobile Networks BV, The Netherlands.







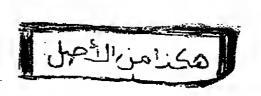
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DataTac system developed by

The latter's Ardis network in the US is one of the largest in the world and by the end of last year had more than 40,000

subscribers. DataTac has also

been adopted by operators in

Germany, Switzerland, Singa-

Motorola and Ericsson are

both pushing hard to persuade

potential operators to adopt

their technologies, although in

Europe Mobitex appears to

Ram Mobile Data in the UK

runs a Mobiter data-only net-

work, along with two operators

in France, one each in Ger-

many, Belgium, Sweden, the

Netherlands, Norway, Finland

However, it is not so much

ths number of operators back-

pore and Hong Kong.

US giant Motorola.

# ■ Mobile data services: The US market is the largest in the world, reports Eden Zoller A poor relation no longer

After a slow start, a new day is dawning for mobile data services

In the fast-moving world of mobile communications, mobile data has tended to take the back seat. It has been viewed as the poor relation to mobile voice services, capable of a few useful yet limited applications in the less-glamorous world of vehicle fleet companies. Or at least this was the view, until recently.

Today, however, mobile data coming into its own. It is being taken seriously, and according to the UK research company. Ovum, the number of subscribers in Europe and the US will climb from 717,000 in 1994 to 18.1m by the end of the century. One of the key factors fueling growth in this market is the trend among GSM digital cellular network operators to introduce data services over

their networks (see next page). Mobile data services are possible over analogue cellular networks, but the GSM standard is far better equipped. It supports a short-messaging service along with other data applications, such as fax, online database access and electronic mail. GSM also has advanced security features. such as encryption on each call

module (SIM) card technology. But despite these inherent advantages, it is only in the past year or so that GSM operators have turned their attention to mobile data in a meaningful way.

and anthentication procedures

based on subscriber identity

The market for GSM voice services is now well-established, and as the market matures, operators are looking at ways to differentiate their service offerings. Value-added aervices are the way to do this, and mobile data is top of the list. As one senior executive at

UK GSM operator Vodafone. says: "Mobile data is one of those services that has always been looking for a bome. Now it has found one."

In the UK. GSM operators Vodsfone and Cellnet, and latterly DCS1800 digital cellular operator Orange, have been racing to build up portfolios of mobile data services. All three offer a range of on-line information services, access to the Internet, fax and data transmission and electronic mail. Cellnet has been given a little extra help by a couple of marketing alliances, formed by leading shareholder BT, which bolds a 60 per cent stake in the

BT struck a deal in June with Unisys, the computer and information management company, that allows Unisys to seil BT's mobile data services to its business customera, offering those services over the Cellnet network. This echoes a similar

deal formed between BT and

computer manufacturer Apple in February, whereby users of Apple's portable computers and its Newton personal digital assistant (PDA) can access online information ad electronic mail via Cellnet.

The proliferation of mobile data services over GSM is similar in the rest of western Europe, particularly in those countries which, along with the UK, bave a competitive telecoms regime and where value added services such as mobile data are the new battlefront for two or more cellular operators.

## Roaming facility

An aspect of GSM which makes mobile data so attractive over networks supporting this standard is the ability of GSM to support international roaming between networks. Cellnet offers voice roaming

between its own UK network and other GSM networks in

The US is one of the few countries where GSM has not so far heen adopted - the Americans preferring their home-developed analogue and digital Amps standard.

However, US cellular operators have been more enthusias. tic about mobile data than their European counterparts, and recently nine leading US operators, including Ameritech, McCaw Cellular and Bell Atlantic, joined forces to develop the Cellular Digital Packet Data (CDPD) protocol that can be overlaid on analogue networks to provide advanced packet-switched data

The US market for mobile data services is the largest in the world and will continue to be in the near future. Ovum reckons that of its projected 18.1m mobile data subscribers by the year 2000, 10m will be

In conjunction with the new-



believed to be the largest in the UK: see case study, below

found favour for mobile data in the GSM camp is the long-established support from dedicatsd mobile data network operators providing services using other data communications systems. In the UK alone there are three such operators all using different technologies: Ram Mobile Data UK, which uses the Mobitex system

developed by Swedish telecommunications equipment manufacturer, Ericsson: Cognito and Securicor Datatrak which have both developed their own mobile data systems.

Cognito and Securicor Datatrak are the exception to ths rule, as, in general, data-only network operators have either

adopted Mobitex or the rival

ing Mobitex, but what is being

and Poland.

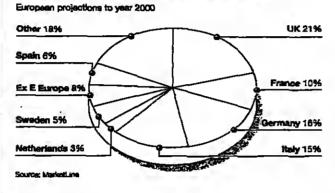
done with it that is important. France Télécom, Mobile Data, along with the Ram Mobile Data networks in the UK, Netherlands and Belgium have launched the first commercial roaming aervice for mobile data in Europe and have plans to provide roaming services to the other European Mobitex operators in the near future.



The Psion Workshout: a hand-held computer that combines with National Band Three (NB3) to provide off-the-shelf communications systems for commercial vehicle fleets, NB3, a leading two-way mobile radio network operator in the UK, also has plans with Psion to develop other applications, such as involcing, stock control and sales order entry

cturers

## Distribution of cellular subscriber base



Digital and analogue mobile phone subscribers

Country	Analogue subscribers	Digital subscribers	
US	24.10	0.00	24.10
UK	3.10	0.44	3.54
France	0.42	0.54	0.96
Germany	0,72	1.75	2.47
Italy	2,40	0.00	2.40
Spain	4.10	0.00	4.10
Japan	2.92	0.38	3.30

Germany has the highest percentage of digital mobile subscribers - 70.9 per cent of subscribers are connected with a digital network. Source: MarketLine International

# large-scale solution

■ Mobile data case study: Application by British Gas Service engineers. By Paul Taylor

Customers benefits include faster maintenance services and lower costs

British Gas Service is one of five new husiness units which have replaced 12 regionallybased British Gas operations in the aftermath of privatisation. Its primary role is to dispatch service engineers in response

to maintenance calls. In common with the other four business units, formed in March last year, it must now compete with other companies in the private sector without the benefits of internal subsi-

lts success depends on a new set of business-critical computer systems which automate the service operation and reduce costs significantly. These new client-server based systems include one of the largest mobile data applica-

tions in the UK, designed and is the key and so it was vital built by CMG Computer Management Group, the computer services group.

"The new systems are absolutely intrinsic to the future success of British Gas Service because it's the only way in which the company can pro-vide the right levels of service and perform profitably for its shareholders," says Robin Fay, project manager for Area Operations who looks after about half of the new systems including the Field Application

"The enormity of the project becomes clear when you realise that the ratio between field service engineers and the administrative back up staff used to be 1:1 and we're targeting a ratio of 30:1 by the end of

"The engineers used to work out of 91 depots but will now operate from just seven service centres, and their numbers will be reduced by several thousand. The mobile data system customer is not kept waiting

we chose the right IT partner to design and develop it for

CMG had already designed trial system and was picked by Robin Fay and his team to design and develop the Unixbased application for nationwide rollout.

### **Business targets**

The variety and size of the different databases used by British Gas Service, and the number of people accessing that data, meant that clientserver offered the most efficient processing model to achieve the company's new business targets.

When a customer calls one of British Gas Service's seven Area Service Centres, a computer telephony integration (CTI) system with caller line identification (CLI) brings up relevant customer details on the operator's screen, so the

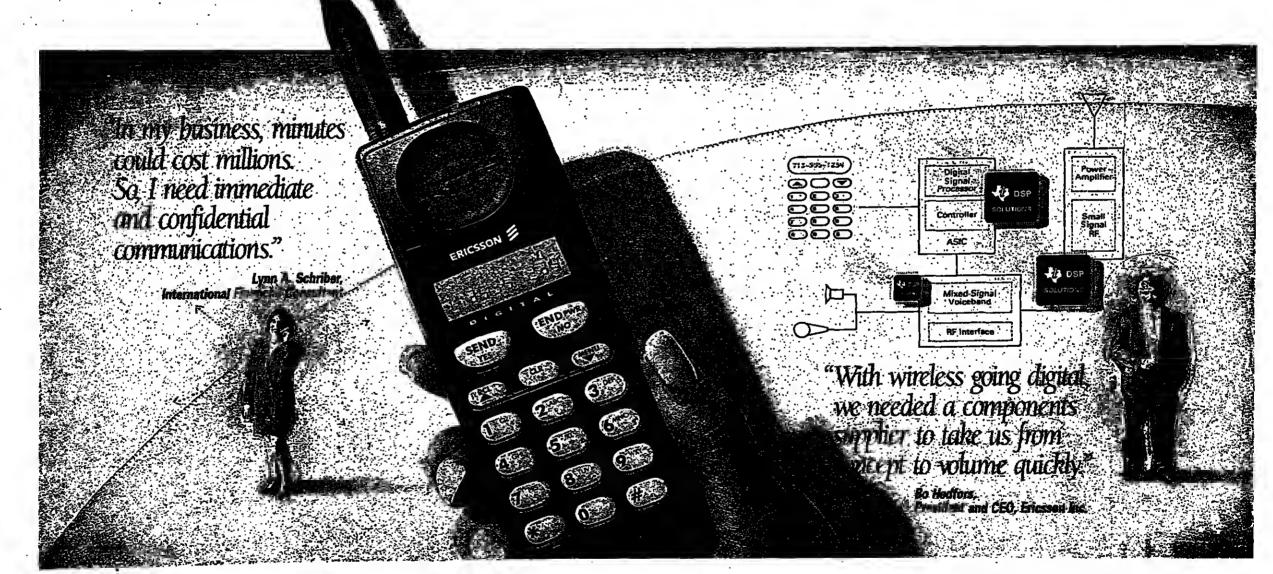
time re-supplying information.

These details include their service contract, the appliances covered, and the date of the last service visit. The CTI system, which uses software from Datapoint, allows calls to be transferred, along with the relevant on-screen dats, to another operator if necessary.

In addition, operators can 'drill down' to gain more detail on any aspect of the customer history, stored on other servers in the organisation.

The customer contact system then makes a job request which is sent both to the contract management system and the work scheduling and allocation system which runs on Sun and IBM RS/6000 servers and antomatically schedules the call against s constantly updated diary, allocating it to the most suitable engineer on the basis of location, skill pro-

Continued on next page



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■ Paging: Fresh applications

■ GSM - Groupe Speciale Mobile: The European system has gained valuable support in the US, reports George Black

# The bleeper gets hip as new markets emerge

Today's high tech pager is a long way from the old tone-only gadget bleeping in a doctor's pocket, writes

## Kris Szaniawski

Europe's long dormant public radio paging sector is at last beginning to stir. Blg initiatives in both the business and consumer sectors are cranking into gear, although Europe still has a long way to go before it catches up with applications in North America and the Asia-Pacific region.

New products and services are being launched in a hid to tap the elusive European consumer market. Ever more customer-friendly pagers with names like Swatch the Beep are appearing as paging opera-tors team up with companies sucb as Swatch and Benetton in their desire to reach the youth market.

Services bave been given user-frieodly names such as Amigo, Buzzer and Tam Tam, as operators have sought to convince teenagers of the attractions of sending coded messages on numeric pagers. It is all a long way from the old image of a tone-only radiopager bleeping in a doctor's pocket

The marketing revolution in Europe has been mainly stimulated by the success of the calling party pays (CPP) concept. Encouraged by the success of the first CPP service - introduced by Sweden's state-owned mobile operator Telia Mobitel two years ago - many other operators have already launched full or quasi-CPP services or are planning to.

Unlike with conventional paging services which have not proved to be popular with the consumer, the CPP subscriber does not have to pay an ongo-ing monthly subscription charge or sign a contract. The subscriber simply goes to a high street retailer and buys a pager which is automatically connected.

Once the consumer bas purchased the pager - typically numeric pagers are now available for under £100 - he or she does not need to pay anythi more. The operator makes a profit from the premium rates levied on the telephone users who send messages to the pager. The cost advantage to a subscriber of a CPP service over a cellular mobile phone is

numeric pagers - which use a small screen to display numbers - has dropped in recent years to almost that of toneonly pagers which simply bleep, so making them suitable for the consumer market.

Alphanumeric pagers, on the other hand, cost more to buy and are also more expensive to use because bureau staff are required by the operator to cooveri messages into text.

Numeric paging dominates the global market, accounting for more than 80 per cent of the worldwide paging popula-

Apart from a temporary slowdown caused by the operator having run out of capacity earlier this year, Telia Mobitel's Minicall Privat CPP service has been growing at a

## The 'calling party pays' concept proves a winner

remarkable rate since it was launched in 1993. It saw 50 per cent growth over the last year and aims to double the oumber of subscribers over the next twelve months. This kind of growth in a market that has the highest mobile cellular penetration rate in the world -20 per cent - bas convinced other European operators that a oew paging market nicha is there for the taking.

Since autumn 1994, CPP services have been launched in France, Germany, Ireland, the Netherlands, Portugal and the UK. According to Christen Rindorf, executive director of the European Public Paging Assoctatioo (EPPA), high-profile marketing is crucial to the success of CPP services in the conaumer market. In the past, mobile service providers hava oot promoted paging with as much vigour as their mobile

telephony services. The last year has also seen the launch of digital paging services in Europe based on the Europeao Commissioo-backed Ermes standard. Ermes (European Radio Messaging System) is being touted as a

potential global wireless messaging standard.
Ermes offers a wide range of services not available on current paging aystems. According to Peter Hurst, secretary of the Ermes Memorandum of Understanding (MoU). "Ermes has a much higher capacity than existing systems. It can transmit messages faster. It

can deliver more text and it

can offer value-added services. Furthermore, it offers the prospect of international roaming." Four commercial Ermes services have already been launched since the beginning of last year - Infomobile and TDR in France, and Eurobivo and Easycall in Hungary. France Télécom is expected to launch a third French service later this month, and further launches are anticipated in Finland, Sweden, the Netherlands and Denmark over the

next six months. The implementation of services in the UK and Germany has been beld up partly because of coocern about interference batween Ermes and other services in adjacent channels. Recent technical tri-

> Already, more than 20m pagers are in use in Asia

als, however, seem to indicate that fears of interference problems have been exaggerated. According to Mr Rindorf, positive results from trials such as those currently being held in the UK will encourage the early implementation of Ermes

The European Commission's and manufacturers' ambitions for Ermes are not restricted to Europe - a service is about to be launched in Saudi Arabla but, most significantly, they bope to make inroads in the fast-growing Asia-Pacific region.

The Ermes MoU - which now has 37 members in 23 countries - held its first international paging forum specifically for the Asia Pacific region in Kuala Lumpur at the heginning of last month.

It is not yet clear that Ermes will be able to recreate the suctal cellular standard. Ermes networks are planned in Malaysia and Singapore, whereas a number of countries, including Japan, have opted for Motorola's rival Flex digital paging standard.

The Asia-Pacific paging mar-The purchase cost of ket holds obvious attractions, as it is already the world's second largest and is growing fast. It had reached around 20m subscribers by the end of 1994, well ahead of Europe's 3.2m and an increase of 50 per cent over the previous year.

China is the largest growth market in Asia. According to estimates by the country's Ministry of Post and Telecommunications, the number of radio-paging users in China could increase by 4.5m this year. In Beijing alone, there are some 150 paging compa-

Overall, the consulting group EMCI predicts the number of subscribers in the Asia-Pacific region will more than triple to reach more than 70m by the end of the decade out of a world total of 130m In Asia. paging has proved to be a popular cheap alternative to

mobile cellular services.

North America, still the largest paging market in the world but approaching maturity, is expected to double by the end of the decade from the 27m reached at the end of last year. The growth rate for 1994 was 38 per cent.

The rapid expansion of the consumer market and the implementation of narrowhand PCS advanced messaging services such as two-way services will ensure continued high growth rates in the US, savs EMCI.

Last year's auction of radio frequencles for narrowband Personal Communications Services (PCS) attracted considerable interest from telecommu-nications and IT companies not ing such as McCaw Cellular and Microsoft but keen to explore new value-added pag-

ing opportunities. The new two-way aervices will allow users to make and receive data messages and to automatically acknowledge receipt of a paging message or choose one of a number of set return messages such as "I'll call you right back."

It is also hoped to use two-way paging to boost the market for personal digital so far conspicuously failed to take off.

# A de facto standard emerges

GSM's success as a standard for digital mobile phone technology has surprised even its most enthusiastic supporters

A couple of years ago, Groupe Speciale Mobile (GSM) looked unlikely to gain acceptance in the US market. The industry was resisting it in favour of home-grown standards which American companies could be sure of dominating.

But the spread of GSM to become oot only the first pan-European standard for the business but also a standard widely adopted in Asia and the Middle East, has forced the US Industry to acknowledge its importance. From an original proposal by France Télécom and the German Bundespost in the aarly 1980s, GSM was developed with the encouragement of the European Commissioo as a collaborative venture between European telephone service operators and equipment manufacturers.

It has achieved what its backers hoped. First, they have largely avoided the problems which had occurred in setting standarda for the analog mobile phone market.

Secondly, there is oow a coo-tinent-wide standard which creates economies of scale for network operators and manufacturers. This has produced a much bigger market than would otherwise have been possible, increasing competition and pushing prices down. Digital technology will over-

take analog in Europe around 1997 to 1998, according to market research by Dataquest. The UK, Europe's largest cellular market, is bowever, going over more alowly to digital than some other European coun-Many business users are switching to digital, but most

domestic users are not. At present, digital is still regarded as a special service for travelling business people, rather than for the mass market. The two main UK network operators, Vodafone and Cellnet, are now focusing more on

their digital than on their ana-

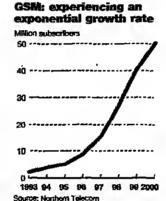
log networks. The network

operators are adjusting their

domestic usera. Mike Sbort, director of international affairs for Cellnet, forecasts that GSMbased systems will make up 20 to 25 per cent of the total this year - "GSM growth has exceeded our expectations in the last year," be says.

tariffs to try to attract more

He claims the shortage of GSM bandsets, due to a sbortage of chips and other electronic components, is the main factor holding back the UK market at present. This situation is likely to last until at least the middle of next year. Ivan Donn, a senior business



manager at Vodafone, says improvements in the infrastructure of digital base stations over the next two years will raise the level of coverage. This will do more than anything else to promote the digital service, in his view.

Experts' views differ on whether the highly subsidised price of GSM handsets to customers can fall much further. Some think it could drop from an average of £300 to around £200, with the cheapest

being sold at less than £20, but this could attract more of the wrong sort of customer and worsen the already serious "churn" rate - customers wbo default, Competition from Mercury's One-2-One and Hutchison's Orange networks will belp to push tariff prices down and increase UK demand for digital services GSM. GSM has become the first-

generation standard for digital cellular telephony right across Europe. Virtually every European country now has a GSM service available, or will have soon; many countries have more than one.

European companies are now better positioned to export their products and services on

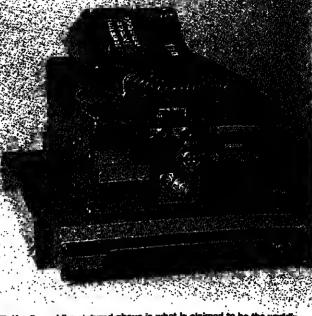
the back of the new standard. GSM is the dominant standard in the buge and fast-growing market of much of Asia Pacific. (though not in Japan. South Korea or Hong Kong); as well as in India and the countries of eastern Europe. In North America, it has

gained access to the market in competition with the alternative technologies of TDMA (Time Division Multiple Access) and CDMA (Code Division Multiple Access).

Which is the best technology is an issue which has divided experts, and remains to be thoroughly tested, with new applications running under live usage conditions. None of the contenders has established clear superiority. Both of the main alternatives

have powerful allies in the US telecommunications industry -TDMA is espoused by AT&T, CDMA by Sprint. However, because of the lack of a clear US standard and the

predominance of GSM outside the US, a number of smaller US telecommunications companies have thrown their weight behind GSM. Thus, market research figures which might seem to indicate that GSM was



bile: pictured above is what is claimed to be the world's first mobile telephone, a hefty creation by Oki in the US in 1976. In contrast, right, at a European checkpoint, a car driver calls his

losing momentum as it ceded market share to other emerging standards, can be mislead-

Dean Eyers, a senior analyst at Dataquest, points out that although GSM may have passed its peak in market share, it will still be by far the most followed standard in 1999. when the worldwida digital cellular market will have multiplied ten times to around 177m subscribers.

That could be only a small proportion of those who will

## GSM is now the dominant standard in the Asia Pacific market

eventually have mobile phones, according to the vendors' marketing campaigns. "In the long term, other tech-

nologies will supersede all of the current standards," says Mr Eyers. "but GSM has a good future for five to ten years, and the next generation of standards will incorporate many GSM concepts."

GSM has introduced a built-in level of intelligence into networks which enables user options to be more easily configured, and is a much better data communications platform than older systems, be

One possible application la in the road-tolling systems which the UK government has recently announced it will be testing - "GSM la the first choice for digital cellular around the world and will continue to have success, though there will be pockets of other technologies such as CDMA, predicts Mr Eyers ....

The next generation of standards could combine GSM with the standard called DECT (Digital European Cordless Telephony). DECT has the advantage of being able to support very high subscriber densities in areas such as railway stations and airports, which have been a problem for GSM.

The next generation of mobile phones may therefore have both GSM and DECT capability built into them. Such systems are already being tested.

Further ahead, both GSM and DECT features could be reused in the European project called Universal Mobile Telephone Systems (UMTS), which is still only at the discussion stage.

■ GSM applications: A vehicle for moving data By Julia King

# Services become more innovative

There are already 100 GSM networks with a total of 10m customers - and the number is rising fast

Industry sources predict that by the year 2003, wireless communications will account for some 40 per cent of all calls (wireless and wireline) made

While in 1993, the wireless market was worth \$56bn, by 2003 it is expected to be worth \$4 trillion.

Mobility has emerged as one of the key issues of the decade for business users and developments in communications have been instrumental in furthering their ability to link back into their base office wherever they are in the world. Cellular systems bava

proved unexpectedly popular. leading to the appearance of the digital GSM system originally developed for use in Europe and now also found much further afield. According to Mike Short.

director of international affairs

for Cellnet and chairman of the GSM MOU (Memorandum of Understanding) group, there are now 100 GSM networks. Between them, these networka are axpected to have 10m customers by the end of this month and 12m by the end of 1995 - "15 per cent of the cellular world total will be

GSM-based this year, and 40

per cent of the European ceilular market," he predicts.

The MOU group is made up of 150 operators in 80 countries. The majority of these operators are outside Europe. Wbile the growth in the marketplace is mainly accounted for by voice traffic. most European operators also offer Short Message Service (SMS) capability.

SMS, which Vodafone claims to have been first to demonstrate at the end of 1992, allows short text messages of up to 160 characters to be displayed on mobile handsets.
The capability is available

even when the mobile's user is already using the handset; in other words, text and speech can be transmitted simultaneously. SMS is additional to the GSM system's fax and data capabilities. Today, says Mr Short, most

of the instances of use are mobile terminated - that is, sent to the mobile. He expects to see increasing use of the service "when features are more stable". This will come with phase two handsets, due to be launched in 1996, be says -"they will offer a broader range of features and applica-

Functionality akin to that found with most office exchanges will be incorporated in handsets - "there will be more creative use of the service next year.

Next year will be one year of applications and customer service. To make effective use of



Mike Short of Cellnet, the chairman of the GSM MoU association which represents global GSM network members in

SMS, users need intelligent terminals more like a compoter keyboard and with larger displays and a broader range of information providers, says Mr

Regions such as South Africa, Australia and Hong Kong already bave SMS in place. The Asia Pacific region is likely to take up the service in greater depth next year. Mr Short says there has been "a very significant increasa in SMS where it is in place as a significant increasa in

While this indicates that the



Howard Ford, managing director of Cellnet, which - along with rival operator Vodafone in the UK - is now focusing more on digital than

messages sent sequentially.

primary use of SMS is as a paging type of service, there is no reason why SMS should not be used for sending longer messages. For exampla, subscribers to Reuters Dispatch service could have a number of Users would simply scroil through 160 character message after message.

increasing the number of users of a mobile data service has always lain with applications development: such large resources are needed to underdevelop a generic messaging system that is truly useful to a sufficiently large number of worthwhile.

different subscribers to make it Small wonder, then, that most of the GSM operators have been devoting their resources to getting their digital systems up and running and not in developing the addi-

useful mobile messaging sys-

tem. that it tends to put itself

out of court before the service

It is apparently difficult to

has even got off the ground.

tional features such as SMS. says Mr Short. There have been some moves on the data front - for example. Vodafone's agreement with Unipalm Pipex. This anables GSM subscribers to dial into the Internet using their cellu-

lar phone. Pipex offers 34 vir-

tual points of presence, some

of them European. Access to the loternet is possible wherever a live Roaming Agreement exists with Vodafone (there are now 45 worldwida) and a data service for visitors is supported.

Vodafone bas in place applications development initiatives with companies including Lotus, Microsoft, Novell and a number of smaller developers.

The latest agreement enables The main deterrent to GSM subscribers to send and receive text messages on suitably-equipped bandsets via Hewlett-Packard's OpenMail client-server based system. OpenMail users can now access

their messaging services using their GSM bandset. stand how a business works in order to be able to develop a

Vodafone is also working in conjunction with Psion on a system that will use the Psion 3A robust palmtop computer. Believing lhat some compa-

nies do not require their GSM system for voice. Vodafone has implemented a data-only tariff. DataWorld is a tariff that allows users to send data, fax and Telenote (SMS) messages; MessageWorld is designed for those who only want to send Telenotes whether from fixed to mobile, mobile to fixed or mobile to mobile locations.

The latest GSM handset to be launched by Orbitel features a four-line, 48-character illumi-

nated display.

The addition of optional MessageLink software and cable enables a personal computer to be attached and used as an SMS control centre. This facility overcomes the problems experienced by users of GSM handsets who might want to key in a message but who would find it next to impossible because of the size of keys oo the keypod.

There is little doubt that mobile data represents a market that is, as yet, predomi-

nantly untapped. Finding the key to unlock the potential of the marketplace could earn some systems integrator a great deal of money. The popularity of GSM as a vehicle for communications - and the predictions for its future - make it an ideal candidate on which to focus.

# One of the UK's largest applications

data is automatically posted

into the Field Service Applica-

tion ready to transfer, with the

How mobile data speeds up the job for gas engineers

Continued from previous page:

file, availability, stock on the van and journey time.
The job is then transferred to the relevant engineer's oote-book PC, using the British Gas public mobile radio network. or the Ram mobile data network in the 10 per cent of the UK where PMR coverage is not

good enough. The field service eogineers transmit and receive data by plugging their Panasonic por-

table PCs into mobile gateways in their vans using radio modems, although it is planned that credit-card sized PCMCIA cards and cellular telephones will be used as the interface in the future.

The engineer travels to the next designated job and uses the portable PC to update customer and appliance informa-tion. The PCs include CD-Roms running a database storing a complete stock inventory and price list on 4.000 appliances, as well as a boiler diagnostics

Usiog the database, engi-

neers can highlight the parts

other Job details, back to the scheduling and application systems and the National Parts returns to the van. Customer ond appliance details are also updated at the time of the call and then trans-

ferred to the Works Management System.
The Field Application System and Work Management Systems also ensure that all relevant data including financial information, is automatically posted to the general ledneeded to complete a job. The ger, HR and MIS systems.

logistics and warehousing Tha Fleld Application Syatem includes all the inatructions needed for the complex communications process including handling two impor-

Confidentiality

Data compression is carried out because the transmissions conducted via modern are relatively slow, and would tie up the PMR lines for lengthy periods. it also eucrypts the data, to protect customer confidentl-

ality.

The software was written in

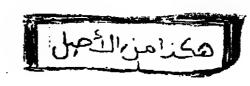
familiar interface. A great deal of validation is built into the system so that figures outside usual parameters are questioned and eogineers are some times prompted from a 'pick list' of statements to reduce the problem of individual emphases being mlsinter-Robin Fay says: "The system

provides much more management visibility of the engineers as well as providing a much better service to our customers. For instance, the works allocation system is updated by engineers using hot keys to Dos running under Windows enter status reports at key

so that engineers work with a intervals - for example, when they arrive at a customer and wheo they've finished the job. "The allocation system bas a built-in alers, which flags up jobs if it appears that an engineer will not be reaching them within the agreed time scale. so a replacement engineer can

> "it also sends an alert if an engineer is later checking in than he should be in relation to his work in progress."

He adda: "Ultimately, it is our customers who will benefit most with a faster and more efficient service, using less paperwork and far more focused on the task in hand."



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# ligh value-added bias

The company's drive to expand ISDN has been a big bonus

them and

175

As competition in the telecommunications equipment market has intensified in recent years, equipment prices hava fallen. But despite the proliferation of relatively cheaper products, Siemens, the German electrical and electron-Ics group, has managed to retain a leading position as a supplier of telecommunications systems, and as one of the largest producers of end-user

Along with many other German companies, Siemens gears its production and marketing towards the high value-added end of the market, concentrating on telecommunications systems for both small and large companies, and upon networks capable of interconnecting its systems.

Siemens also produces telephones, mobile phones, fax machines, a range of high-tech end-user equipment that remains highly popular in Germany. Internationally, Siemens is among the three largest manufacturers of telephones with sales of 8m units in the

In Germany, Slemens does not sell its end-user equipment directly, only via wholesalers and retailers - and, of course. via Deutsche Telekom, tha telecommunications operator. One little-known fact is that Siemens pioneered the earliest fax machines, only to fail to exploit the technology commercially - an opportunity seized by Japanese competi-

### Benefits

Siemens benefits greatly from its traditional strengths and its commercial networks in Germany, its homebase. This has been enhanced by the acquisition of Nixdorf, the computer company, which also included a telecommunications equipment division. Internationally. Siemens gained the necessary critical mass, when it bought Rolm from IBM in

In the US. Rolm is claimed to

be the third largest manufacturer of telecommunications systems, after AT&T and Northern Telecom.

Cootrary to many predictions, Siemens has emerged from the deregulation process in the German telecoms market stronger than before, holding on to a stable market share of 39 per cent of systems, in a competitive end-user market.

Within Siemens, telecoms operations are divided into two divisions. The public telecoms division, which aupplies telecommunication operators with industrial equipment, such as digital exchanges, remains the larger of the two, with sales last year of DM14.1bn (\$10bn). The private telecoms divi-

sion last year achieved a total turnover of DM6.5bn, of which telecommunications systems account for about DM5bn, or about 75 per cent, with enduser equipment making up the remainder. In comparison, the total Siemens group, last year had a turnover of DM84.6bn.

Despite lts relatively modest size - in Siemens' terms - the private systems business is the market leader in Germany. number two in Europe after Alcatel of France, but number one world-wide.

As a manufacturer, Siemens benefits greatly, though indirectly, from the driva by Deutsche Telekom, the German telecom operator, to expand Integrated Services Digital Networks (ISDN), which offers dig-Ital telecommunications right up to the level of the end user. throughout Germany.

There are axpectations within the industry that ISDN may emerge as the standard of German telephony within the next few years. These efforts are greatly helped by a wideranging subsidy scheme from the German government with the aim to minimise the cost of transition for the end-user. ISDN's attractiveness will increase further after next year's proposed change in telecom tariffs, which will eradicate the remaining price disadvantages against digital telephony.

The impact of the switch towards ISDN, one of the few areas in telecommunications where Germany is playing a



Satellite-based muttimedia sales information network: this Viewpoint system has been developed by Siemens Nixdorf with AlphaServ to allow ers to broadcast sound and video images to standard TV sets in branch stores simultaneously, for the cost of a single transmiss

significant, especially since Germany is abandoning a relatively low tech telecommunications system - low-tech in comparison with tha US - in favour of a totally digital system all the way through to the level of the end user.

The quasi-forced introduction of ISDN is a manufacturers' dream, because it shortens the replacement cycle of older systems, which may otherwise have lasted a few more years in an analogue environment. ISDN, unlike traditional tele-

phony, requires either digital telephones, of which there are only few more than a handful of models on the market, or an ISDN-capable telephone system, to which analogue phones can be connected.

The switch towards digital systems - which, depending on the choice of equipment, can be schieved at minimal cost after the generous federal subsidies - has already led to a telecom advertising frenzy in German newspapers. The downside, though not for Siemens, is that the fixed-ratenature of the subsidies discriminates against cheaper prod-

One of the important developments in the market for telecom systems is the increasing leading international role, is proportion of services as part of the husiness. Dietrich Botsch, president of Siemens' private communications systems division, says that "the new service offerings extend far beyond the old typical services in this husiness. It means more than merely initial consulting, systems setup and configuration, and servic-

This new range of services includes the setting-up of corporate networks, system management, video conferencing, and a host of other services in the fields of voice, data and video communication.

## Product group

On the product side, the mainstay of Siemens' offering is the Hicom family of telephone systems, which range from small systems for small businesses, to large-scale offerings for multinationals. The second product group are the Rolm systems 9750, which are geared specifically for the North American and Asian markets. The technology of the two systems is hecoming increasing similar. They are rendered compatible through a network protocol that allows multinationals in Europe and the US to access the services offered by the opposite system.

■ Phone fraud: A fast-growing 'industry' is examined by Peter Marsh

# companies fight back

Investigative teams will try to trap the cloners

Teams of investigators employed by big companies in the UK's mobile telecommunications industry are due to start work later this year in a desparate effort to cut down on one of Britain's fastest-growing frauds involving illicit use of cellular phones.

The investigators are being recruited by the Federation of Communications Services, which represents many of the hig names in the industry. including all four network operators - Vodafone, Cellnet, One-2-One and Orange - and most of the UK's 40 providers of mobile phones services.

Assuming the proposed changes clear legal hurdles, commercial contracts between the networks and service providers and Britain's 20,000 mobile phones dealers will be altered in the next few months. This will give the investigators the right to inspect dealers premises to check wbetber they have been involved, even indirectly, in criminal actions.

The networks and service providers are worried that many of the 15,000-odd phones stolen every month in the UK often from the back seats of parked cars or from the pockets of victims of mugging end up with dealers after a relatively simple procedure of "cloning" to make them capable of illicit use.

Many of the stolen phones are helieved to be taken to "cloning laboratories" run hy highly organised groups. There the phones are programmed with electronic codes ohtained through eavesdropping on ordinary phone calls using electronic scanners relating to existing handsets.

After the stolen phone has been "cloned" with the code of a handset that is already in use, the phone is often reconnected to one of the four networks through a dealer who is not too worried about the phone's history. The dealer picks up a commission fee of perhaps £300 for making the reconnection, the thief pockets possibly £20 from the dealer and depending on how the cloning has been carried out,

make his calls free, with the hills going to the owner of the phone with the original code. "Stealing mobile phones and making the necessary changes

to re-fit them to the networks is almost ridiculously easy." complains Mr David Savage, chairman of the service providers arm of the FCS, who is also chairman of Astec, one of the UK's largest service providers. "It is easy money for thieves." The costs of "stolen" airtime

plus re-equipping people whose phones have been cloned, and associated security measures. is thought to come to about £100m a year. The federation reckoos there is a hard core of possibly several hundred dealers who are fed many of the stolen phones. If their activities can he monitored using the new teams of investigators - two, so far, and due to climb to perhaps 10 over the next year - then the big companies in the industry may be on their way to winning the battle against the fraudsters.

At present, however, the war is a long way from being won. One aspect making life relatively easy for traudsters is the UK's relatively unregulated

RUPEBALE

以下,他然后的人

I'LL HAVE TO CALL YOU BACK-

SOMETHING'S COME UP

mobile telecoms industry, with a large number of dealers and service providers and a highly active "second hand" phone market. A second problem in the fight against illicit use of phones is that the UK was a leader compared with many other European countries in starting up its mobiles phones industry. As a result, about 80 per cent of the UK's 4.5m mobile phone subscribers are connected by older analogue

## The war against phone fraud is still far from being won

networks - where the handsets

are relatively easy to clone as opposed to newer digital networks which are predominant in much of the rest of Europe, where cloning is virtually impossible. A third difficulty for the respectable part of the mobile phones industry is the high level of car break ins - and phone thefts - in the

However as well as action to check on dealers prepared to

STOTEN

PHONE

SOUAD

connect up stolen phones and if possible, freeze them out of the industry, the main mobile telecoms companies have other ideas in the battle to cut down on fraud. The most promising is the method of inserting extra electronic codes into the radio messages that mobile phones transmit to make cloning more difficult. Vodafone is introducing to

new subscribers a system which adds an extra code - the character of which is changed every time a call is made - to the message, thus making it impossible for a fraudster to be able to insert a new set of electronic messages to enable reconnection to take place. Also, both Cellnet and Vodafone have software to detect when two apparently identical phones are in action so that one or the other can be cut off.

A hig worry in the future is that thieves are working out how to perpetrate fraud involving the newer digital networks. This is a particular problem for the UK's two smaller network providers - One-2-One and Orange - which solely use digital as opposed to analogue

Fraud using digital networks does not involve cloning, but rather is based on ways of disguising the fact that calls are being made using a variety of computer software techniques horrowed from the computer hacking industry. By this process it is possible for customers to run up a big hill for international calls - most of the digital networks conform to international standards and are easy to link up with ones overseas - and attempt to evade payment.

As a result of such problems. the telecoms industry is looking for better ways to screen potential users of tha new digital networks to check on whether they may be prepared to use their phones illicitly. But there is nervousness in the industry about this approach, hoth because it is coming close to challenging the honesty of customers and because too much bureaucracy involving checking procedures runs totally against the mobile phones sales philosophy of keeping to a minimum any restrictions hampering the use of the equipment.

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THE VISION To sight excellence in the world of telecommunications.



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# **Bruised champion**

Under new chairmanship, the company is well positioned to capitalise on market trends

16

Mr Serge Tchuruk, the oew chairman of Alcatel Alsthom. is moving fast and hard to tackle the problems of the ailing French giant of the telecoms equipment sector.

week, three months after taking the helm of the French group, he announced a radical restructuring programme aimed at reversing a decline which pushed the group into its first ever loss in the first half ot this year. The plan includes a write-down in assets of between Ffr10bn and Ffr12bn and restructuring provisions of about the same amount. Significant job cuts are expected from the company's 230,000 stafff, while management is being reorganised to improve efficiency and responsiveness to the fiercely competitive market.

Such steps are necessary to steer the group back on course after a series of extraordinary setbacks which have battered and bruised the Freoch indus trial champion.

A corruption scandal forced the departure of its former chairman earlier this year, while a separate legal wrangle concerning allegations of overbilling ensoared one of the group's main subsidiaries and dam aged relations with France Télécom, its principal

Contraction in some of the company's biggest markets, and specific sethacks in Ger many, caused operating profits from telecoms activities to plunge from FFr8.3hn (£1.06hn) in 1993 to FFr3.1bn last year, prompting a fall of almost 50 per cent in net results at Alcatel Alsthom, the parent company. Shares in the group fell by about 50 per cent last year, but have since regained ground in the expectation of

In satisfying such expectations. Mr Tchuruk has several strong cards to play. The com pany retains a strong and



markets. Pictured here is an Alcatel phone user in Hanoi, Vietnan

continue to grow at a hefty

investigations which bave

plagued the group over the

past two years, the company is

relatively sanguine. The depar

ture of Mr Pierre Suard, the

former chairman, bas eased

the adverse publicity coocern-

ing allegations of the 'ahuse' of

corporate funds and has helped

calm client and investor fears,

Although legal investigations

are continuing, tensions with

France Télécom concerning the

allegations of overbilling for

equipment have also been

reduced. "There is no doubt

that we bave suffered from

these affairs in business

terms," says Mr Cornu. "But

my feeling is that as far as

relations with France Télécom

are concerned, we have the low

Unfortunately, the same can-

not yet be said for many of the

company's principal markets -

"if you look at the husiness

environment, 1995, in terms of

investment is still a pretty

poor year," says Mr Cornu In

Germany, in particular, prices

and demand remain weak.

increesing the urgency of

restructuring at the company's

loss-making local subsidiary.

"Wa are on course with our

point behind us.

Concerning the scandals and

rate," says Mr Cornu.

ence, dominating many mar kets from France to China. In response to Beijing's policy of increasing local manufactur ing, Alcatel is establishing sev eral new joint ventures, inline transmission, microwaves and mobile telecoms, to add to its existing switching plant in

The French group is expand ing rapidly in other areas. In the US, for example, Mr Jozef Cornu, Alcatel's chief operating officer, estimates that sales of transmission equipment will rise to about US\$800m (£500m) this year, compared with \$560m in 1994. In Latin Americs, Alcatel is taking advantage of its close ties with Telefonica of Spain to pene trate the local markets

The group has also built a strong presence in many leading products and technology areas. Its broadband technologies, ranging from ATM switching aystems to SDH transmission devices, provide Alcatel with a strong position in growth sectors and in the nascent multimedia communi cations industry. Its data net works division is elready experiencing rapid growth. accumulating annual turnover of about Ecu350m (£291.5m) -

"we expect this business to

effects will not be seen until 1996," says the Alcatel executive. The French group also faces

a challenge to catch up with the industry leaders in mobile telecommunications, one of the fastest growing market sectors. The failure of a planned alli ance with AEG and Nokis at the end of the 1980s, under mined Alcatel's strategy for entering the sector and has left. struggling to keep pace. "It has been much harder for us to take advantage of the mobile boom than for some of our competitors," admits Mr Cornu. "We really came from

But Alcatel is responding. In May, for example, the mobile telecoms husiness received a FFr1.15bn capital injection from Alcatel NV, its bolding company, to cover accumu lated losses and planned investments. Mr Tchuruk has said that mobiles will be a strategic area of development for the group, promising management and financial resources to ensure its development.

They bave a lot of ground to cover to make up the gap with companies like Ericsson and Motorola," says one telecoms industry analyst. "But the pace of the expansion of the market, in terms of new types of customers and new geographical areas means there is room for all of the big players."

In other promising sectors patience is the order of the day. The much-trumpeted multimedia age bas yet to see ambitious proposals turned into orders for suppliers like Alcatel. The entry of new play ers into the market as a result of liberalisation and deregu lation is also at an early stage. Mr Cornu is confident that

the wait will be rewarded - "in multimedia, we are not yet seeing enormous investments, but l am sure it will come," he says. It is a similar story con cerning new entrants into the telecoms market, from utilities companies, to railway operators and cable TV companies.

"There is a lot of talk, but not much spending at the moment. But we will see a lot of things happening before

The two Nordic recovery plans, but the full companies have taken a leading position in the

> fast-growing mobile sector It is no exaggeration to say that Ericsson of Sweden and Finland's Nokia, two Nordic neighbours based far from the world's hig markets, have taken the booming mobile telephony industry by storm in the past fiva years.

Moving with a speed that has left many of their larger rivals in traditional fixed telephony trailing in their wake, the two companies have taken leading positions in a still fast growing sector - and have reaped the rewards in the shape of big profits growth and spiralling

share ratings. Ericsson, controlled princi-pally by the Wallenberg family industrial dynasty, is tha world's biggest supplier of mobile telephone infrastructure, holding some 40 per cent of the market measured by the proportion of the world's 60m mobile telephone subscribers connected to its systems. It stands well ahead of second placed AT&T of the US, which has some 10 per cent.

Furthermore, Ericsson is the world's third largest supplier of mobile handsets, with a 10 per cent market share.

## Rising sales

That market is led by the US group Motorola. But in second place is Nokia. The Finnish company, once better known for its production of lavatory paper and rubber goods, has only a small proportion of the mobile infrastructure market. But it accounts for an impressive 20 per cent of all mobile handsets sold worldwide.

The success of the two Nordic rivals bas been amply reflected in their results. In the first half of this year, Ericsson posted a 40 per cent rise in pre-tax profits to SKr3.22bn while sales rose 18 per cent to SKr43.23bn. The engine of this growth was the Radio Communications division, where sales shot up 54 per cent to SKr23.45bn. accounting for comfortably more than balf group sales, compared with 25 per cent five years ago.

Profits growth at Nokia. which is more highly geared to mobile telephony, has been even more spectacular. In the first four months of the year, Nokia pre-tax profits were ahead by 85 per cent over the same period last year, reaching FM1.8bn. Group sales were up by almost 50 per cent to FM11.4bn. The result followed full year profits in 1994 of FM4bn, a 250 per cent leap over 1993 and a record for a Finnish

company. Not surprisingly, investors have queued to gain a share of the success of the two companies. Nokia's share price bas risen more than 20 times since 1992, when Jorma Ollila, the chief executiva, took over what was still a stumbling conglomerate and focused the group on its telacoms operations. The company now accounts for nearly 40 per cent of the total market capitalisation of the

Relsinki stock exchange. In Sweden, Ericsson has also been a top performer, its share price more than tripling since 1990 (taking account of share splits) and regularly recording record levels this year.

How have Ericsson and Nokia achieved such success? And, crucially, what are their prospects of sustaining it as competition in the mobile sector grows more acute?

A key factor Ericsson and Nokia shared in building up their expertise in mobile telephony was the adoption in the early 1980s - much earlier than in most parts of the world - of a common operating standard by the Nordic countries. This common standard using analogue technology - called NMT provided the basis for the speedy spread of mobile systems in Ericsson's and Nokla's home markets. Sweden, Norway, Denmark and Finland remain top of the world league of penetration of mobile telephones per head of population. As other countries elsewhere

established mobile systems. many opted for the NMT system, giving Ericsson and Nokia an in-built edvantage. in Ericsson's case, its long history in telecoms markets around the world (it was in China in the

last century) meant it had vital experience and recognition in diverse markets to belp it

Tha two companies gained further ground by quickly developing the digital operating systems which are now rapidly overtaking analogue as the preferred technology. Both Ericsson and Nokia had equip-ment ready to supply the GSM digital standard adopted in Europe and bave subsequently scooped most of the contracts for GSM systems worldwide.

The startling rate of growth for mobile telephones worldwide offers Ericsson and Nokia ample opportunity to continue to grow. Since 1990, the number of worldwide subscribers has jumped from 6.5m to more than 60m today. Industry projections foresee the number escalating to 350m by the end of the year 2000.

But the next few years may



In use here: the Nokia Orange mobile phone - a fruitful outcome

not necessarily be plain sailing for the Nordic rivals. For a start, much bigger competitors such as AT&T, Motorola, Siemens of Germany and France's Alcatel will be pushing to catch op. Profit margins, to date attractively large because of the strength of demand, may well fall as competition rises.

The big players have more financial clout than Ericsson and Nokia, which can be important in growing markets like China where customers often seek help from suppliers in financing contracts. To counter this threat. Ericsson in

share issue - the biggest of its kind ever in Sweden - to improve its ability to offer contract financing to clients.

All players will also continue to face a fierce battle over technologies in which making the right choice can be crucial to a company's success. To illustrate the point, some 60 per cent of hoth Ericsson's and Nokia's sales last year were from products which did not exist three years previously.

Research and development is the kay. Ericsson in recent years has spent proportionately far more - up to 23 per cent of sales - on R&D than its rivals. Recently it acknowledged that one area of heavy spending, on broadband "multimedia" products, had beld back profitability without, to date, seeing a breakthrough in mass-market products. Nokia has a more tightly focused R&D strategy, concentrating hard, for example, on combin ing mobile voice and data transmission. But that is also a risky strategy, as picking the wrong technologies could leave the company exposed later on.

A recent example of the kind of setback the two companies could suffer came in the US. the world's largest mobile telephone market with 25m subscribers at present. There, two of the biggest operators of Personal Communications Services, a new ganeration of mobile phone and other communications networks, opted to use a digital operating system called CDMA which neither Ericsson nor Nokia can supply.

The Nordic companies were undeterred by the decision. Ericsson, which is shifting up to 8,000 of its workers from its public communications division into mobile telephony in an effort to sustain its leading position, says it still intends to capture a one third share of the US: Nokia, likewise, is forging ahead with plans to increase manufacturing in the US and to produce handsets for every system. The US development underlined, however, that there will be no free rides for Ericsson and Nokia as they seek to entrench their remarkable success in mobile telephony to date.

# You're looking at 30,000 telephone calls in midair



Hardly anyone gives much thought to how much information reaches us day after day through the air. This applies not only to radio and television programmes, but also to the transmission of data and phone calls.

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systems can be used more and more efficiently. A microwave link can transmit 30,000 telephone calls simultaneously, each of them in CD quality.

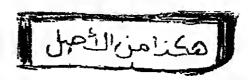
Bosch is one of the leading suppliers in the field of lineof-sight data transmission, and many international network operators rely on Bosch's microwave technology. For example, the rapid installation of the telephone network in Germany's new states would not have been possible without it. Shortly after the reunification of Germany,

millions of people were able to phone all over the world using the Deutsche Telekom network as well as the new cellular mobile radio networks.

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**■** Electronic data Debate of EDI

users of fifther a ter-# IDI suggests that companies state have to be convinced about its advantages

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Competition is far from easy when an incumbent operator has a stranglehold on the

local network The "local loop", the few kilometres of copper wire which traditionally make the final connection between a local exchange and the home or office, can be a devastating weapon for a dominant telacoms operator in a newly liberalised environment.

Mercury Communications, chief competitor to the UK's dominant operator British Telecommunications (BT) put the case clearly in a submission to the UK telecoms regulator. "BT'a ubiquity through its control of the local loop is the most important barrier to the development of sustainable

Ownership of the local loop provides competitive advantages which newer entrants find hard to overcome. In particular, an operator which already provides a customer's plain old telephone services is in a strong position to supply new services such as information and entertainment when they can be transmitted over the same network. Customers faced with innovative services feel more comfortable if they are supplied by a familiar

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· 47 :

Incumbent operators can raise a variety of technical barriers against newcomers. There is, for example, the question of "number portability." Nobody is anxious to change to another operator if it means changing a familiar number; allowing a customer to retain a number is not difficult but there are costs



Peter Howell-Davies, the new chief executive of Mercury Communications, chief competitor to the UK's dominant operator British Telecoms. BT's 'ubiquity through its control of the local loop is the most important berries competition, says Mercury

incurred in reprogramming switches and arguments raised over who pays.

Then the former monopolists must be prepared to allow their new competitors to site transmission on their premises to allow fair access to both network and customers. A broad catalogue of objections and obstacles can be created to slow this process.

And there is the question of calculating fair pricea for access to customers where it is uneconomic or impracticable own local loops. Many of the longer-established operators have accounting and billing systems which cannot easily disgorge this level of detailed

AT&T, the US long-distance operator with far-reaching international ambitions, and others were reported earlier this year as complaining that the German local loop would remain in the hands of Deutsche Telekom after liberalisation. They wanted assurances that the German operator would not be allowed to charge unfair prices for access to cus-

Countering the incumbent operator's stranglehold on the local loop is therefore seen as essential to the development of efficient competition in markets which were formerly the fiefdom of a single monopoly operator. But it is not easy.

Two large markets already hberalised, the US and the UK, illustrate the breadth of problem. The two countries took quite separate approaches to opening competition in their home markets.

In the US, the 1982 AT&T divestiture decree and the 1984 modified final judgment, the two pieces of legislation responsible for the break up of the Bell Telephone System. were underpinned by an assumption that local telephony was a natural monopoly while long-distance transmission was ripe for competition.

It resulted in a strict separation of the local and long-distance markets. The regional Bell operating companies (Rbocs) were forbidden to enter the long-distance business, while AT&T was not allowed to offer local access. These restrictions do not apply

for new entrants to build their to non-Bell companies much as MCI, the second largest long distance operator, or to Sprint. The Rhocs, bowever, now derive more than 50 per cent of thair revenues from leasing access to the long distance car-

> The manner of the break-up, however, failed to anticipate developments in wireless and Other technologies. In June

Entrenched operators can raise a variety of technical barriers against newcomers

this year, the US Senate overwhelmingly agreed a sweeping telecommunications bill which will allow the Rbocs, the long-distance carriers and the cable television companies and electrical utilities to move into each other's businesses.

The Sanate decision, how ever, reflected changes in state legislature which were already transforming the local tele-phone market. By the end of last year, for example, 13 states wera already allowing some form of competition between the Rhocs and other telecom companies.

In New York, customers can already choose between their traditional operator, the Rhoc Nynex, and new entrants MFS and Teleport In the UK, the market has

been open since a government with high capacity fibre optic review in 1991 and there are currently more than 150 opera-Despite these challenges to tors licensed to compete with its dominance, BT still has British Telecommunications, about 90 per cent of the UK the largest UK operator. telecoms market. Although the

Since 1992, in a development

virtually unique to the UK.

cable television operators have

been allowed to offer voice tele-

phooy in addition to entertain-

ment. BT, bowever, cannot

broadcast over its main net-

work. This "unfalr" playing

field was created to allow the

cable companies to establish

themselves and to encourage

them to invest the considerable

cable companies are beginning to make inroads, progress is alow. BT has only just agreed to accounting separation so that costs and prices in its separate businesses can be moni-

## Alternatives

Although it bas agreed in principle to number portabilsums necessary to wire the UK ity, it has disagreed with the regulator over who should pay for it. forcing - under UK rules - a reference to the UK's Monopolies and Mergers Commission. It could be a further six months before portability is

achieved in practice. What alternatives are there? One possibility is fixed radio access although as Analysys.

the UK-based telecoms consultancy points out, radio-based networks have yet to prove they can offer either quality or the availability of the fixed net-Another, more radical approach, is to split a former monopoly operator into two parts. The first, a network

access lines from services in operation, would bave the these modern networks. responsibility of providing access lines to other operators Research intensifies to find on a fair and non-discriminaalternative local connections: tory basis. The second part, a see next page.

services company, would be able to compete with other

players on the basis of the

quality and innovative nature

It is an attractive notion but

the rapid development of

"intelligent" networks, where

computer systems are inte-

grated deeply into the struc-

ture of the network, may rule

it out of court. It may simply

be too difficult to separate

of its prodocts.



■ Electronic data Interchange: Report by John Kavanagh

# Debate over benefits of EDI in finance

The tiny number of users of financial EDI suggests that companies still have to be .... convinced about its advantages

Europe electronically with over 90 per cent of its main suppliers and is saving millions of dollars a year - but it stops short of using electronic data interchange (EDI) for payments.

The computing giant is not a luddite but part of a buge majority which is so far rejecting financial EDI. The UK. Europe's biggest EDI community, has just 40-50 organisations doing financial EDI - out of a total of 12,000 trading partners using EDI to send orders, invoices and other documents between their computer systems over telecom links.

Yet financial EDI is not particularly new. Banks have offered services aince 1990, receiving payment instructions in the Edifact international standard format and sending payment to the recipient's bank. Detailed remittance advice is sent at the same time via EDI by the payer or by the bank. If a recipient does not use EDI, the remittance advice can be printed and posted: indeed, UK banks believe only 10 per cent of payments

involve EDI from end to end. Benefits depend on tha previous payment method. If payments were by cheque, there are clear cost-savings at both ends, although banks' calculations vary considerably, from £8-£18 per cheque. These costs include stationery, producing and posting remittance advice notes, authorising payment, buman errors and handling the resulting queries, and reconciling payments to invoices.

These benefits are reduced for companies which already use automated services, such as the UK's Bankers' Automated Clearing Services (BACS) organisation. In these cases, the recipients get most of the benefits from EDI, notably in the form of detailed remittance advice and the possibility of automatic reconciliation. Such information is not provided by BACS.

Whatever the previous pay-

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ment method used, EDI brings other benefits outside the administration savings. There is certainty about the payment date, which belps with cash flow calculations and removes the need to chase payment.

· By contrast, cheques have clearing delays and with BACS there can be delays of two or three days, enabling customers to use the excuse of "it's in the post". Indeed, research shows that a third of all late payments in Europe are intentional

The UK Article Number Association, which advises on EDI, says that companies using financial EDI tend to initiate payments more quickly. Prompt payment can open the way for discount negotiations. Most of these benefits are agreed on by banks, EDI asso-

Connections between banks and commercial networks are still too limited

ciations, users and non-users

alike.
"The payer cuts paper-handling and reduces labour costs, gets good cash management and better discounts for fast payment, says Michel Choueiri, who nonetheless so far rejects the whole idea: he is EDI strategy manager and chief financial officer for pur-

chasing at IBM Europe. Mr Choueiri highlights two main areas where progress is still needed:

First, the banks themselves need to look at their operations: he says not all banks across Europe offar financial EDI; some use their own sub-sets of EDI standards, thus tying companies into their services and making communication between banks uncartain; and there is not enough connection between bank networks or between bank and commercial net-

works. This last point again means customers are forced to connect directly to a bank's network instead of using an EDI service they are already linked to, although both banks and users argue that a direct link

the security point of view when payment messages are involved.

Gary Lynch, chief executive of the UK EDI Association, believes all this reflects banks' traditional view that they know best: "Banks are used to telling customers what they want," be says.

Mr Lynch goes further: "The banks have mistakenly seen themselves as bubs in an EDI set-up, whereas it is the big customer, doing EDI with its suppliers, that is the hub; the bank is just another supplier."

The banks seem to be getting the message - "frustrated bankers say there has been incomplete appreciation of the benefits," says Saif Rahman, who has long been involved in EDI at National Westminster Bank. "In reality, companies are perfectly able to do their own evaluation. Customers are not interested in just a better way to pay: bankers must offer

better ways of doing business."

There are signs that this is

happening. For example, direct debits are being introduced for trading partners with close relationships: the supplier initiates payment by an EDI mes-sage which passes details to its customer. The supplier gets greater control over payment, so it pays the charges. This overcomes the problem of the BACS-user paying for EDI services when the benefits are enjoyed mostly by its supplier. Howevar, the second prob-lem area highlighted by Michel

Choueiri still remains: cost. Mr Choueiri says be has seen charges of \$18-\$25 for a single transaction in Europe. In the UK, an EDI payment and remittance charge is put at around £1, although some estimates put it at £2.50 - or 10 times the cost of a payment by

For a company already paying through BACS, there is no contest, on the face of it financial EDI costs far more and most of the benefits go to the recipient. A company paying by cheque faces a more persuasive case in terms of administration and other cost-savings: Barclays says a company in the UK making 200 UK and 50 international payments a month can save nearly £25,000

The tiny number of users suggests that companies still have to be convinced. That is why the EDI Association is doing independent work on banks' formulae and assumptions, starting this year with Barclays.

This could make or break financial EDI - "everything is in place technically for financial EDI," says Gary Lynch at the association. "If the business case can't be proved, we as an association should leave it alone and just let it continue as a matter for banks and commerce to argue over."



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## ■ Service delivery mechanisms: Research is intensifying, reports John Williamson

Fibre optics and radio technology may be the answer

For most of the history of the telephone, the vast majority of subscribers bave been linked into the nearest telephone exchange by pairs of copper or alloy wires. Over the last few vears, bowever, the pressure to deploy alternative service delivery mechanisms bas

mounted steadily.

Across the globe, operators are now taking a long hard look at what fibre optics, new add-on high capacity copper technology and radio transmission can offer in the local loop 'last mile'.

Operators have been deploying fibre optics in the telephone network since the late 1970s, progressively extending the application of the technology from international and long-haul links to the middle distance junction network and. most recently, to the local

In the latter part of the network, fibre could be the optimum solution if operators plan to deliver high bandwidth multi-media, ultra-fast data and multi-channel video-on-demand (VOD) services. However, although companies such as Colt and MFS have built local fibre access networks for corporate customers in metropolitan conurbations, such as London, and national operators such as Deutsche Telekom, have commenced ambitious projects to install fibre-to-thebome (FTTH) and fibre-to-thekerb (FTTK) systems, actually running fibre directly into bomes is still a relatively

expensive proposition. Although the price of fibre itself is no longer much of an issue, components needed to convert light and electrical energy are still expensive, and fibre installation costs are high, It is also true that fibre has to be quite widely deployed before service providers and network operators can market their products to the potential customer base.

This is also a consideration for hybrid fibre coax (HFC) networks. Here, fibre takes traffic into a neighbourhood area and the end links to the actual customers are provided

copper pairs or, most recently, coaxial cable by itself.

The sums of money required to deploy HFC on a mass scale are enormous. In the UK, for example, the cable TV community has already invested over \$4.5bn to pass 4.5m homes with HFC networks, and the price tag to cover 75 per cent of the country's population with this technology is put at \$15bn. minimum

On the other aide of the world, Australian telco Telstra is stumping up A\$4hn to take HFC past 4m bouseholds, while arch-rival Optus Communications is spending A\$3bn to be within reach of 3m.

Nevertbeless, RFC is atill presently a lower cost option for an operator than 100 per cent fibre. "Prospects For Com-

Systems to convert light and electrical energy are still expensive, and installation costs are high

petition In The Local Loop", a 1995 report from the UK's Analysys consultancy, suggests that in urban areas the annualised capital cost per connection for new build HFC is less than balf that for FTTH, Although HFC capacity is much smaller than that of all-fibre, there are those who reckon this is not a big worry in the immediate

Of his company's HFC customers. Optus Communicatlons' chief operating officer Ian Boatman says: "If they want to take one or several television set feeds into their bomes, it's not a problem. If they want to operate one or several Internet or voice connections at a time, it's not a problem. I can't conceive of too many homes, or even too many small businesses, with a bigger

requirement than that." Other approaches to delivering greater bandwidth to endusers involve scaling up the performance of the extant cop-per distribution network. This

is wby some operators have invested heavily in Integrated Servicea Digital Network (ISDN) since the mid-1980s. ISDN provides capacity in increments of 64,000 bits per second. So far, though, the technology has not percolated through to ordinary subscribers and, according to Alberto Zanettin, strategic marketing manager at Philips' French subsidiary TRT Experdata, it is

still virtually impossible to buy

a domestic ISDN telephone or

answering machine. TRT also believes the local loon is the blind spot in visions of true mass internet usage. In September the company began test-marketing modems specifically designed for domestic users. Available in department storea and priced at around £200 for 28,800 bits per second performance, the modems are intended to apeed up access to the Internet and other on-line

applications. The commercialisation of new copper-based technologies which run much faster still is also under way. Asymmetric Digital Subscriber Loop (ADSL) is an add-on digital data transmission technology. Locating ASDL boxes at either end of the link between the subscriber and the local telephone exchange enables traffic to run at speeds of several million bits per second in the exchange-to-customer direction, and several thousands of bits per second in the other.

This sort of performance makes ADSL an interesting candidate for the provision of VOD and inter-active multi-media services over the telephone network and, indeed, many telcos around the world are trialling the technology.

Many of these trial installations have been supplied by Westell International, the specialist US transmission vendor which in August introduced what it says is the first commercially available internatlonally standardised ADSL system. Westell president and CEO Rob Faw predicts that technologies such as ASDL could alter the entire balance of the telecoms husiness.

A brand new copper-based technology developed by fellow US enterprises AT&T Bell Laboratories and AT&T Paradyne could belp this transformation

along. Dubbed symmetric digital subscriber line (SDSIA it operates at up to 1.554m and 2.048m bits per second in both directions, which is more than 70 times faster than currently

available modems. "This technology will allow worldwide phone companies to make the information superhighway as universally accessible as today's telephone, radio and telavision services," declares AT&T Paradyne director of husiness development Clete Gardenhour.

While microwave video distribution systems have been used to deliver high bandwidth traffic, a main thrust of wireless local loop (WLL) systems is to enlarge access to basic narrowband dial tone.

The chief advantages of substituting wireless systems for copper can be summarised as: reduced cost of subscriber connections in rural areas, faster service roll out and so earlier access to revenue, and reduced network planning requirements in terms of allocating capacity to present and future subscriber numbers, densities and locations.

Also, the WLL demand curve can be matched gulte closely to the level of operator investment. Some of the most active WLL markets to date have been in eastern Europe and the former Soviet Union where telephone densities are relatively low.

Earlier this year a 50,000 line capacity WLL network supplied by Hughes Network Systems was inaugurated in Tartarstan, and Hungarian national telco Matav signed a deal with Motorola for the supply of 200,000 lines of WLL Such developments may only

be the tip of a global WLL iceberg - "right now, if you were just to take our top ten markets - markets with long waiting lists and some reasonable GDP - and just take a percentage of that group. I'd say you'd have 140m people who have an urgent requirement for a telephone," concludes David Hughes, vice president and general manager of Motorola's European cellular infrastructure division.

Advances in fibre optics: see

■ Transport telematics: Innovation by Bosch of Germany. Report by Michael Dempsey

# 'Bottlenecks ahead: turn left'

The German auto electronics giant has the business travellers' interests at heart

"A husy husinessman who travels a lot doesn't want to rely on maps all the time," says Stefan Buchansteiner, navigational systems marketing manager at Bosch.

In co-operation with Mercedes. Bosch has launched a voice activated system called "Travelpilot". It tells the driver where to turn and relies on data from the satellite-based Global Positioning System to locate his vehicle. Sensors attached to the

wheels measure the distance covered in a journey and match this up with the GPS signal to determine the position of the car.

GPS signals are only accurate to within 100 metres, so this extra data is very necessary. At the start of a journey the driver uses an operating unit to key-in four numbers corresponding to his destination. A cursor can he used to point to the road required in the small pictorial map dis-

But Travelpilot has already heen surpassed by Bosch's Berlin car radio. This disenses with the street map display and calculates the most effective route between two points on behalf of the driver. Speech output informs the driver that he is approaching a junction. As an additional aid a shaded bar graph decreases as he nears his turning point. The idea is to offer realistic navigation bearing in mind the distractions and stress of city motoring condi-

The heart of the Berlin system is a database that lists not just atreets hut the one-way regulations and traffic flow details that make the difference between a quick trip and a frustrating journey. This programming inevitably slows up the roll-out of the Berlin system. It is currently available in a version storing 650,000 German street kilo-



No need to get lost: Bosch's Berlin car radio system can give vo one on the best way round 650,000 German streets

metres and 2.5m intersections For other European nations, Bosch has to find ways to deliver a regular update of new road conditions as well as constructing a formidable database of city streets. CD-Rom disks are the chosen method of storing this material. These will be sold to the public or accessed via a car dealership, Berlin car radio incorporates a CD-Rom drive along with stereo and radio functions from Bosch's Blaupunkt subsidiary and adds some £2,800 to the price of a

The Berlin system is impressive, but it is not aimed at a mass market. Bosch Itself recognises that traffic flow is a serious problem as car-ownership rises and road congestion reaches an unacceptable level. The most advanced systems on board executive cars cannot prevent urban traffic jams. Computer-based analysis of traffic data and

beacons that use this information to limit access to congested areas and vary toll collection in order to deter traffic entry are all under consideration in Germany. Road traffic there has increased by 50 per cent since 1980.

These developments are all part of a new dimension in car design called Transport Telematics. This term embraces a raft of technologies that are making tha transition from testbed to commercial prod-

The overall objective of transport telematics is to provide the driver with high technology tools for collision warning or cruise control. Microwave radar emitters that ait behind a registration plate and spot vehicles ahead regardless of weather are under development. Traffic lights will acquire the ability to react to the presence of traffic instead of obeying

The challenge for research teams is to integrate these systems into one range of equipment that is effective and affordable. In the UK, the c100m state-sponsored Innovative Manufacturing Initiative is tackling these issues. A strong base in defence electronics has placed UK companies in a good position to exploit these emerging tech-

nologies.
One of the dilemmas of transport telematics is familiar to military engineers. As the car acquires a collection of computer chips and electronic systems it becomes vulnerable to electromagnetic interference. Computers are nov being used to modal the impact of every possible radio tranamission on in-car systems. This process is wellestablished in the aerospace sector and car designers have been able to borrow beavily from defence-related experi-

These solutions to the once simpla question of getting from A to B are all on the horizon. But communicating via a carphone has become utterly commonplace, although some practical problems have been overlooked in the rush to install these popu

Another innovation is the personal communications net work (PCN), promoted in the UK by the Orange arm of Hntchison Telecom, PCN operates on a different frequency, delivering four times the capacity of the earlier technology. Orange Data, a service running on PCN, enables users to send faxes and electronic mail by plugging a mobile phone into a laptop computer. Orange is banking on the emergence of a mobile professional workforce to boost this service. Car kits are available and the company predicts that in the UK alone a million people will use mobile data solutions by 2004. Unless a miraculous solution emerges for traffic congestion, a lot of those users will be executives who have abandoned the stress of a traffic jam and pulled over to work from their car.

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For further information, call MFS Communications on 0800 376 0376.



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Telecom 95 in Geneva, Switzerland - a world showcase for all that is new in telecommunications products and services. The previous Geneva event was held four years ago. In this article, Sir lain Vallance, chairman of British Telecom, reflects on the changes in telecommunications since Geneva 91 - and looks forward what the next four years will bring.

Tf a week is a long time in politics, four years in an industry that is changing as fast as telecommunication is a generation. Since the last industry showcase in Geneva in 1991, telecommunications everywhere, but particularly in the UK and in Europe, has undergone extraordinary

There are two key challenges facing telecommunications companies between now and the year 2000. The first is globalisation - as businesses increasingly operate globally, so they are looking for suppliers who can provide a "ona stop shop" for all their communications needs around the world. Partnering will be a key enterprise skill in the future in the achievement of globalisation. We can confidently expect a spate of alliances across national and industry borders.

The second challenge is the development of advanced, interactive services - the con-

Today sees the opening of struction of the information society. The accelerating convergence of the telecommunications, consumer electronics, entertainment and publishing industries will have a profound impact on the way we live and work. But, the pace at which the information society is constructed will depend largely, on the structure of regulatory regimes around the

In the 11 years since privatisation, BT has invested more than £20hn, building one of the most advanced networks and some of the most advanced compnter systams in the world. Just a few months ago. BT became the first major network operator to replace unit charging with per second pricing for all its customers.

BT has changed from an essentially single country operator to a global player. We have formed what we believe is the defining strategic alliance with MCI, the US's second largest long distance carrier. Together, we have launched our joint venture company, Concert, providing global communications solutions for international compa-nies. In addition to key relationships in the Asla-Pacific region, we have announced a series of deals with European partners in Spain, Germany. Italy and Scandinavia. The ultimate objective of all these alliances is to provide customers around the world with a

Not only are we operating in new regions, but we are deal-



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View from the top: Sir lain Vallance, chairman of British Telecom, looks at the future of the 'Itec' industries – information technology, electronics and communications

agulators and governments can seek to inhibit developments, but ultimately they can't work against the future' Proper by Ashley Ash

ing in new products and services. Four years ago, the mobile phone was almost exclusively a business accessory; now there are nearly 4m

mobile users in the UK alone. Studies suggest that in five years' time there could be more than 13m users in the

wide. The mobile market could then be worth more than

But the main difference UK and more than 250m world between the world of telecomable to enjoy the benefits of

munications in 1991 and in 1995 is that of greater freedom ers around the world are now

tions services. Most notably in data services, but increasingly in basic voice telephony. Consider the UK: in 1991, the

UK Government ended the BT and Mercury duopoly, and ovened the market to cable TV companies and others. Four years later, the UK was the most open and competitive market in telecommunications anywhere in the world. But. unfortunately, in the vast majority of European countries, telecommunications companies remain government-owned monopolies. And although data and private circuit services have been liberalised, progress has been slow and patchy. The liberalisation of voice telephony is not scheduled until January 1998. in spite of the fact that, according to business leaders, this is a key factor determining European competitiveness in world markets.

Greater emphasis and added impetus is needed in developing pan-European regulation. Greater consistency between member-states is essential if there is to be any hope of a single European market in telecommunications emerging post-1998.

So what of the next four years? Estimates are that the ITEC industries - information technology, electronics and communications - could be worth 10 per cent of world GDP by 1999, Competition for that market is sure to intensify. It will be one of the biggest games in town,

But, much can be done now. Existing technology is capable of carrying new services much more efficiently than was hitherto imagined. ISDN links, data compression, multimedia, and embryonic virtual reality techniques are already fostering more natural and intuitive ways of presenting and sharing information.

In the next few years we will see developments in on-line education, more flexible organisational structures, more use of interactive sales and marketing techniques, more sophisticated bome entertainment, and so on.

In the UK, BT has just launched one of the world's most advanced and extensive marketing trials of interactive TV. offering - in conjunction with more than 100 partners a bost of services including movies, games and television programming on demand, ome-banking and home shopping, local information services and interactive advertis-

The technology is there and the customer demand is there. in an industry that is as customer-driven as telecommunications, what the customer wants and technology can provide, the customer will ultimately get. Regulators and governments can seek to slow and inhibit developments but ultimately they cannot work against the future. By the time Geneva 1999 comes around. the world will look very different from today. We look forward to an exciting future.

■ Network management: Report by Michael Kenward

# The goal: right data at the right time

Buying in services does not have to mean losing control of the network

A company's telecoms network can have a profound infinence on the way in which it operates. Management revolves around information which, in turn, relies on effective communications to get it into the right hands. With so much corporate information held in computers, data communications can be as important as the telephone and the fax

Before a company can re-engineer its management processes, it may well need to redesign its telecommunications network, to put into place systems that put the right data in the right place at the right time. This is particularly important for companies that operate internationally. "We are working for a com-

pany that operates throughout the world, but has never operated as a global company." says John Simmons, a senior consultant in the Telecommunications Consultancy Group at Logica, in the UK. The client is moving towards global operation and "they want the infrastructure to support it", says Mr Simmons. Until recently, companies

could not operate globally with ease. Public communications networks just were not up to the task. All this has changed, says Mr Simmons.

Telecommunications started to improve 10 years or so ago in the US. In the past five years, competition in Europe means companies can now obtain the communications facilities they need to manage their operations as they see fit. Ona consequence of the poor

telecommunications of the past was that companies wanting a reliable network effectively had to run their own networks. The rise in quality, and the arrival of competition among suppliers, has opened the doors to a flood of outsourcing. For example, at the end of May, BT and the NatWest group signed a £350m five-year contract under which the banking group transferred hardware, people and networks to BT.

Another powerful driving force that persuades companies to contract out their network. management is the desire to focus on essentials.

Companies may be prepared to buy in talecoms services. but they still want to be reassured that they will get good quality. One way to provide this confidence, and some control over their own links, is for customers to monitor the teleoms services they buy in. More and more customers are specifying network monitoring when they seek tenders from telecoms suppliers, says Peter Beevor, general manager, networks, in the Business Networks division of Cable & Wireless. C&W recently started trials of a system designed to

C&W's Integrated Network Magement System (INMS) allows customers to monitor their telecom networks with little more than a desk-top computer and a telephone link into C&W's own network. The aim of INMS, says Mr Seevor, is to satisfy the customer's desire "to be in constant touch and to see what the carrier is doing

The INMS monitoring systions with the telecome supplier, so customers can request changes in their system, increasing capacity in one region while reducing it in another, for example. They can also receive billing information and details of faults and their correction.

C&W can only offer customers information on their networks because like other telecoms companies, it has invested heavily in its own network monitoring and management technologies. In the UK, for example, one of the world's most competitive telecoms environments, Mercury recently invested £5m in its

A big issue is how to maintain customer loyalty

Transmission Network Surveillanca System (TNSS), described as a "network early warning system".

With 9,000 monitoring points. Mercury claims that TNSS is one of the largest systems of its kind in Europe. The system monitors Mercury's 8,000km 'backbone" of fibre-optic and microwave radio links and thousands of lines connecting businesses to the company's

With TNSS, network managers use computer-animated maps to show them the state of the network. "Not only can wa point out a plece of equipment which has already failed." says Steve Graham, TNSS project manager, "we can often see where a part of the network is in a condition where it might be about to fail." The natwork managers can then rerouta traffic and solve problems before they disrupt service. TNSS is also a valuable diagnostic tool when responding to

customer complaints. Network management is becoming increasingly sophisticated as new technology arrives on the telecom networks. For example, the communications company GPT's synchronous digital hierarchy (SDH) is, says Peter Blackledga, product manager for equipment management operations aystems, "the first transmission technology to take account of the needs of network management".

SDH, developed at GPT's Nottingham centre, is not itself a network management system. It is a digital transmission standard that combines telecommunications traffic from different sources and carries it over the same network.

Mercury claims to have been the first company in the UK to employ SDH techniques in its Built into SDH, there is

nificant amount of information about the state of the network ltseif. And for the first ti a transmission standard, SDH includes internationally agreed standards for network management information, enabling different suppliers to build compatible hardware and software. There is, though, some way to go before the industry reaches this stage, says Mr Blackledge. "Not enough of the standards are in place to be able to pick anybody's kit and anybody's management system and guarantee that they will be able to

Once again SDH provides "a nice user-friendly interface to all this information", says Mr Blackledge, with maps of the network displayed on workstations.

work together." he explains.

As well as monitoring the network, the management component of SDH can be used to set up new customer circuits, and to respond antomatically and within thousandths of a second to the traditional scenario of a JCB through the cable. When Telecom Australia wanted to demonstrate the capabilities of its new SDH system, it did so by putting an axe through a fibre-optic link and demonstrating that there was no loss of service.

Reliability and ease of establishing new services to customers are important aspects of any network management sys-

Quality of service is crucial to maintaining customer loyalty, agrees Hugh Jagger, a partner in the Global Telecommunications Industry Group at consultants Goopers & Lybrand. As competition sweeps through telecoms, says Mr Jagger, "the big issue is

how to keep customer loyalty". Another important aspect of network management, says Mr Jagger, is in reducing the cost base. A lot of the cost of running a network, he adds, sits in the management of the network. On the customer's side, cost is inevitably an issue in a company's telecom strategy. but it often takes a back seat to wider strategy, says Mr Simmons of Logica: "A company will decide that they wish to operate globally and will not worry too much about the

With advanced network management systems, they are in a better position to ensure that suppliers are meeting their contractual promises.

Telecom outsourcing and other aspects of network management: see pages 32 and 39

■ GPT: Profile of the innovative equipment manufacturer. By Alan Cane

# Big growth in overseas orders In any case, the emphasis is

GPT is close to the heart of the multimedia revolution

GPT is the UK's largest telecommunications equipment manufacturer, active in almost every area of the business. The sole exception. curlously enough, is cellular communications, one of the faster growing sectors of the telecoms industry. If cellular skills and products are called for, however, It is able to exploit the expertise enough capacity to carry a sig- of one of its two parents, Siemens of Germany, an acknowledged expert in mobile commu-

> This synergy is an exemple of the alliances which have marked the company's progress. Formed in 1988 through the voluntary merging of the telecoms activities of GEC and Plessey, it acquired dual nationality in 1989 when GEC and Siemens combined to buy Plessey.

Ownership is now 60 per cent GEC and 40 per cent Siemens. Siemens has always indicated its willingness to take a controlling stake if the price was right: so far, GEC has held out for more than the German giant has been prepared to pay and the ownership question seems to have slipped on to a backburner.

Mr Peter Gershon, a tough and financially-acute manager, sometimes tipped as a possible successor to Lord Weinstock as the head of GEC. is credited with placing GPT on a firm industrial and commercial footing. He is now managing director of GEC-Marconi, the group's defence divi-Under its new managing

director, Mr Tony Cobbe, GPT last year turned over more than fibn for the first time, placing it among the top ten telecoms equipment suppliers in the world - although, it has to be said, a long way behind Alcatel. Siemens and AT&T. The company has some 11,000 employees and four prin-

cipal sites in the UK - Coventry, the beadquarters, Beeston. near Nottingham, Liverpool, Coventry and Poole.

Chinese orders: more than 540 iSDX business communication systems are now in use in China, serving many customers in government ministries, Industrial sectors and universities. In May, GPT won a £40m SDH transmission contract from China, involving the laying of 1,500 kilometres of the world's most advanced optical fibre submarine cable.



It reckons to be a the world as traffic on the information leader in two important producl areas: payphones, where it sells to more than 70 countries. and synchronous digital hierarchy transmission, key to the information superhighway.

It recently produced its 500.00th payphone as part of a consignment to Thailand. It also claims to be the largest producer of smart cards in the UK - plastic cards with an embedded microprocessor which have proved eminently suitable for use in intelligent payphones. Earlier this year it announced the formation of a new Card Technology division. part of GPT Payphone Systems. The division already produces cards based on magnetic, smart and contactless

## Flexibility

SDH, known as Sonet in the US, is a transmission technique now being developed to meet the needs of non-voice traffic - data, video, multime dia and so on - towards the end of the century. While voice traffic will continue to increase, it will decline relative to other forms of information

superhighway builds up. A recent report noted: "The switching system - slows. Over the past 10 years, importance of baving an a flexible and intelligent network

infrastructure based on SDH cannot be overestimated as service offerings are closely related to the ability of this network to be reconfigured as demands change". So GPT is close to the beart of the multimedia revolution. In May it won a £40m SDH

transmission contract from China, involving the laying of 1500 kilometres of the world's most advanced optical fibre submarine cable. Stretching from Wuhan to Shanghai, its path runs under eight kilometres of the Yangzte River. The cable will be laid by

GPT Telephone Cables. GPT

says it has now installed SDH networks in the UK. Germany. France, Belgium and Australia. GPT is also strong in videoconferencing. The UK Employment Department, for example, bought almost £1m worth of GPT equipment to enable staff to conduct meetings across 14 sites. On a broader scale, Zeneca, the UK pharmaceutical manufacturer, bought a system enabling the company to link its London headquarters with 85 manufacturing sites world-

The company has seen substantial growth in its overseas business - it more than doubled last year - on the back of big contracts in Russia, China and the Middle East. These markets will prove

important for all equipment manufacturers as sales in the developed world slow. Successes include an order from Greece for payphones which accept UK, French and German currencies in addition to dracbmas; an £8m bid to supply the world's longest unrepeatered submarine cable link stretching across the Baltic to give Latvia high capacity connection to the Western world and a £50m order for switches from Comstar in Moscow, These advanced areas of expertise will prove critical for GPT as the markets for switching Racal/Honeywell team has equipment - GPT is best

known, perhaps, as the manufacturer of System X the UK's pioneering digital telephone

equipment manufacturers flourished as operators invested in the digitisation of their networks. This investment bas now peaked; more than 70 per cent of BT lines are now digital, for example.

Communications of the UK. This enables It to receive statistics for its FreeCall service for business every few minutes on a personal computer screen. Over the past few year, the UK market, now fully liberalised, has seen the cable television companies move in to compete in telephony with the traditional operators. GPT is a leading pr equipment to the cable opera-

moving from switch hardware

to the software which makes it

work. GPT revenues in software are lhought to be in

excess of £100m a year. An

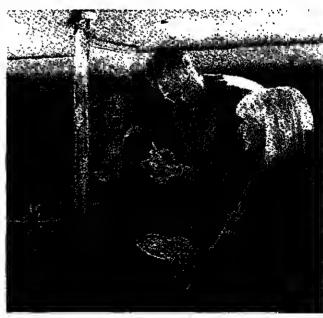
example is the service provider

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GPT bas supplied to Mercury

tors. Last year, for example, it sold £6m worth of equipment to TeleWest, the largest cable operator, including a single order worth film for multiplexers. the devices which enable many communications streams to be transmitted down a single channel. It also installed and commissioned a 100,000 line capacity public network switch for Cable North West.

GPT remains a small player in a large and fiercely competitive market but it has well off parents and skills and expertise of its own. It will need them with the likes of AT&T's newly spun-off equipment division showing a new aggression in Europe.



Swissair's in-flight services on short-haul flights

## New service launched in airborne satellite communications

At the Telecom 95 exhibition this week, Swissair is launching what is claimed to be the world's first satellite communications (Setcom) service on short-haul aircraft to enable passengers to make airborne phone and fax calls, anywhere in the world.

The Racal/Honeywell Satcom team is supplying multi-channel systems which provide uninterrupted communications between the cockpit and ground, bringing enhanced safety and operational efficiency. The also announced the world's

first passenger in-flight shopping and information service, developed in partnership with British Telecom's airline interactiva services (Alis) processing centre.

Racal Electronics, of Bracknell, Berkshire, has annual sales of close to £1bn. The group is featuring a broad range of voice and data communications technologies in the British Pavilion at the Geneva show this week.

For more news on satellite technology, see page 32 in the second section of this survey





**Deutsche Telekom was one of** the first companies in the world to invest in the Infobahn. So it's hardly surprising that we're further down the road than our competitors. We already have the most closely woven fiber optics network - and the most extensively developed ISDN network - in the world. So wherever you want to go in the world of multimedia, we have all the routes you need.



The infobahn is major news. It will create enor-. mous opportunities; it will define the future competitiveness of entire national economies. At Deutsche Telekom, we recognized this potential years ago - and gained a head start in creating the necessary high-speed infrastructures to

enable our customers to take full advantage of it. With the result that we now operate the most developed ISDN network, the most comprehensive cable network and the longest fiber optics network in the world.

The multimedia revolution isn't coming - it's here. We are already seeing the first results of our efforts to make this new technology improve the way we all live.

Working with our partners, we have linked hospitals and clinics to the Data Infobahn. Now X-rays and scans can be sent from specialist to specialist for analysis - in seconds. Teams of surgeons, perhaps thousands of miles apart, can confer on-line, concentrating lifesaving skills and expertise where they are needed, regardless of where the specialists actually are.

In schools, the Infobahn is helping children to learn in new and more effective ways. Thanks to videoconferencing, they can even join other schoolchildren from around the world in "virtual" classrooms.

With our help, Lufthansa is now operating the world's first remote aircraft maintenance system. Via the Infobahn, performance data is transmitted to ground stations while the plane is in flight, and then processed into detailed service checklists for the next stopover

We're also working with some of Germany's largest mail order companies to make teleshopping a reality: complete with on-screen selection, on-line customer assistance and electronic order processing and payment.

And, in conjunction with our partners, we're in the process of conducting a whole series of pilot projects, in thousands of private homes in Germany, to test the potential domestic applications of multimedia.

## For the new era, a new structure.

Deutsche Telekom made the move to stock corporation at the beginning of this year. This restructuring means we are now free to press on even faster with technological innovation. At the same time, we're creating dynamic global alliances with market-leading international partners like Intel and Microsoft.

## Join the highway here.

We saw the multimedia revolution coming - and laid plans to take advantage of it. Our vision has created a version of the Infobahn which is now up and running, with an array of applications and services to match. It's the fast lane to the future: and you're welcome to join us on it.

Our connections move the world.

Deutsche Telekom







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# International

## **SECTION 2**

# TELECOMMUNICATIO

onsider these companies -Intel, the chip maker, Lotus, developer of workgroup software; Oracle, database specialist and Sun Microsystems, workstation manufacturer - all sectors which belp form the mainstay of the computer husiness.

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Yet they, and a host of other computer companies, are making an appearance at Telecom '95, a vast ahowcase for the communications industry in Geneva this year, along with the AT&Ts and Alcatels, in one of the most convincing signs of the emerging convergence of communications, computing and content. Examples of the newest technologies, including digital television and

video-on-demand, will be on display. The focus of the information technology business seems now to be shifting from the personal computer to the telecommunications network with profound consequences for personal computer suppliers, software developers and telecoms operators.

Mr David Moschella, a senior consultant with the International Data Group, told a conference earlier this year there was "a broadly-based conviction that convergence is going to happen, bringing telephone-like capabilities to the computer industry". He thought it might be 2030 before a true "information society" emerged, where global networks connected subscribers to a wealth of information and entertainment, available on demand.

The future may not be entirely comfortable for many of today's players. The personal computer industry, for example, could ba threatened by the emergence of intelligent networks able to transmit large quantities of information at high speed.

PC-users are already complaining of overload caused by rapidly advancing technology. They object to paying for equipment which is obsolescent by the time it is unpacked. They resent software of such complexity that it requires a trained computer operator to load and run it, "Windows 95" Microsoft's latest PC operating system is larger in size and more complicated than mainframe operating software of 10 years

One answer is a "dumb" terminal, or perhaps a terminal of limited intelligence such as a games console. provided with both information and processing power through a net-



# Era of 'the information society'

New technology is leading to global networks which connect subscribers to a wealth of information and entertainment, available on demand, but the future may not be entirely comfortable for many of today's players, writes Alan Cane

work. There are powerful implications here for any industry whose product, especially software, can be distributed in electronic form. Mr James Clark, chairman of Netscape Communications, a US company which has developed Internet software, told a conference last month that he had been able to distribute copies of his software to 10m "customers" in nine months - "we dis-

tributed free copies for evaluation at practically no cost to ourselves". Mr Clark said be was confident that encryption technology bad reached such a state of development that his software could be distributed without fear of illegal copying "this combination of low cost and protection will bave a revolutionary effect on the distribution of software and other intellectual property".

The driving force for this revolution is technology, and in particular the emergence of broadband transmission techniques which have made possible multimedia - the combining of different kinds of electronic data including audio, video. text, graphics, facsimile and telephony in the same delivery channel whether it be fibre optic, satellite transmission, coaxial cable or even

copper wire. According to Price Waterbouse, the technology consultancy, "the multimedia systems under development today resemble the potential result if all the gadgets in the office plus a few from the home were plugged together. The desktop computer is beginning to receive and organise faxes, voice mail, videophone calls and electronic mail, re-routeing them as needed".

A typical development in this new world is the growth of video-telepbony and video-confarencing. The technology to make it possibla to see as well as bear the party called has been available for some years - but at a price.

Companies typically installed complete video-conferencing suites costing tens of thousands of pounds. Line costs and charges restricted the use of the service.

In the past few years, electronics companies have developed circuit boards for PCs which, with the addition of a miniature video camera. turns them into desktop video-conferencing systems. The cost works out at perhaps a tenth of the older technology, even taking into account the installation of telephone lines dedicated to handling digital signals.

Earlier this year, electronics companies involved in the video-conferencing market agreed standards for the systems used to compress and decompress the data to enable it to he carried along telephone lines. This is expected to lead to less confusion for users, lower costs and a rapid expansion of the market.

Global fascination with the internet, a network of computer networks established originally to allow the world's scientists and technologists to exchange information quickly and cheaply, is, perhaps, the most obvious sign of the shift of focus towards the network. It is now accessed by an estimated 50m people worldwide. Exact figures are impossible to establish, given the anarchic nature of the network.

Based on telecoms lines leased from the world's telecoms operators and using a standard networking technology, it has neither owner nor regulator. It is remarkable therefore that governments, banks, bakeries and media groups bave invested time and money in establishing internet sites.

The present anarchy cannot continne, bowever. Will the international telecoms operators eventually regain control of the Internet? Some, but by no means all, believe this is inevitable. A survey among telecoms users carried out by the consultancy Wolff Olins for the Financial Times suggest that today's telecoms operators lack the vision to become global communications companies.

Its report says that "some 78 per

Continued on next page

### INSIDE

 Focus on telecom services and the impact of advancing technology. The multimedia information superhighway is still some way off, but there. is a capacity crunch on the



Virtual reality: the prospects in banking, retalling and education. The quest for video-on-demand more than 50 research projects are under way. Technical advances and the shape of things to come from higher speed networks to the multi-billion dollar race to develop mobile satellite



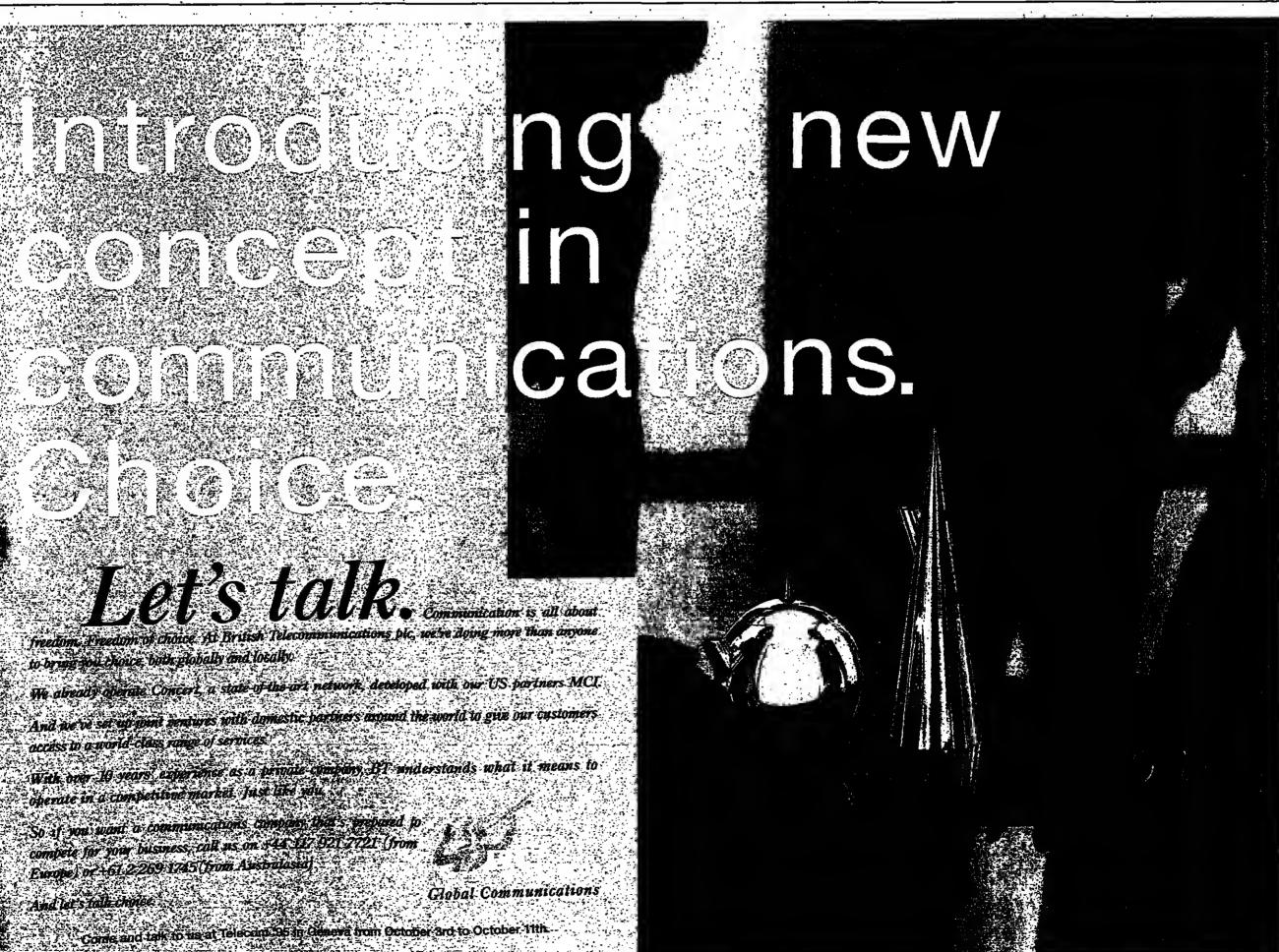
International sections: Africa, Asia and tha Pacific. In Japan, business leaders are worried that the country is falling behind in the race towards an advanced telecoms aga. In China, planners face a critical period of

tional ues day: 101

Views from the top: in both sections of this survey, leaders of several of the world'a largest telecom companies in Europe, tha US and Japan look to the futura. See pages 8,19,26 and 39

Part one of this survey includes reports on developments in Europe and North and South America, plus a focus on mobile communications around the world

Editorial production: Michael Wittshire



# Bandwidth gap needs bridging

The multimedia information superhighway is still far from reality

The information superhighway and multimedia computer technology are natural bedfellows. The ability to transmit images, audio and video over the telephone network makes the information superhighway attractiva both to husinesses and to the home computer user. And digital networks are an obvious way to distribute multimedia information in all its forms.

Expectations have been

raised by manufacturers and suppliers in recent months. They have seen networked multimedia as an exciting new opportunity. In addition to Microsoft's highly public campaign to promote its own network with multimedia content on the back of the new Windows 95 operating system, both IBM and Apple have promoted Internet connections and access to multimedia content in recent months.

But there is a big gap between the promise of a genuline multimedia information superhighway and the reality. A simple colour image, for example, takes several minutes to send over standard telephone links and a few seconds of audio or video takes even longer.

Multimedia content such as audio and video damands large data capacity and high-speed communications – neither of which is within reach of small to medium-size companies and home users. The technologists call this bandwidth and, which ever way it is looked at, there is not enough of it.

Despite significant advances in modem technology, the average desktop computer can only expect to communicate at a maximum speed of 28,800 hits per second – which is way too low for audio and video and even unsatisfactory for single images. Realistically, multimedia communications needs a bandwidth of at least two million bits a second.

Coincidentally, this is the operating bandwidth of tha new wava of eotry-level integrated services digital networks (ISDN1 and, despite a



Multimedia video-conferencing: British Telecom expects an increasing

cology deployed on Internet is

not going to adequate for mul-

flexible technology as the

long-term answer. Asynchro-

nous Transfer Mode (ATM)

technology, for example, offers

in the jigsaw. It will be the

technology that takes the

information superhighway into multimedia," he says. ATM

technology has the benefit of

international support from

telecommunications suppliers

and the ability to meet the

bandwidth demands of multi-

media. But it is relatively

expensive and likely to remain

Meanwhile, distribution of

multimedia content is likely to

remain on increasingly popular

CD-ROM technology - "there

are two key drivers in the

development of multimedia:

first, the marriage of the PC

and the network. All PCs now

come with some sort of com-

munications capability. Sec-

ond, the explosion of CD-Rom.

About 90 per cent of new PCs

have a CD-Rom drive and I see

CD-Rom becoming the main

method of distribution for

some time," says Mr Steve

West, a multimedia specialist

at the US software company

EDS has, for the first time,

used CD-Rom to distribute a

multimedia version of its

annual report this year. It also

so for a year or two.

ATM will be the final piece

much greater bandwidth.

He sees the advent of more

connection cost of £2,000 plus, husinesses are heginning to

take to it.

"This seems to be the level at which useful multimedia cen be achieved and companies in the graphical image distribution market are starting to use it. We also have customers for our two megabit Switchband service In the medical sector, in education and museums," says Mr Phil Sellick, ISDN product developer at Mercury, the UK telecommunications company

Barrier to progress
He goes on to say that the

he goes on to say that the biggest obstacle to wider use of ISDN for multimedia communications is what he calls the cost/value harrier — "many companies want to use it, but they cannot justify the cost against the value that they can get out of it unless they are working in an area like graphics distribution." he says.

"We recognise that we have to make ISDN a commodity network service and we are approaching this by exploring partnerships in niche markets as a hasis for future growth."

The complexity of ISDN and

the lack of International standards also acts as a barrier to further progress, he adds. Generally, be does not see current technology as good enough to support multimedla: "The internet is a sort of beta test of the technology. But the techhas plans to make the report available over the network although Mr West sees some barriers to this.

"There are several issues. For one thing, business users get frustrated with the telephone system hecause it does not match the speed of their internal local area networks (Lans). For another, there are legal and regulatory issues surrounding the distribution of content which will run well into the next century."

Along with Mr Sellick of Mercury, Mr West also sees problems with standards - this time in the multimedia content rather than the telecommunications network.

"They are not as robust or harmonised as we would like to see. There are lots of different formats for images and video clips — JPEG, GIF, MPEG2, M-JPEG. It is difficult to provide all of them. When we set out to prepare our annual report on CD-Rom, for example, we were forced to adopt a lowest common denominator approach so we could reach the largest audieoce. The same goes for networked multimedia."

Mr West sees the world as being trapped between current 'dial-up' services with their low speed and the future broadband technologies such as ISDN and ATM — "before we can say we have ublquitous broadband communications we have to bridge the last mile between the communications backbone and the desktop. Meanwhile, the network has to compete with CD-Rom as the primary distribution method for multimedia".

This has not stopped some pioneers going ahead with putting up multimedia 'titles' on the information superhighway. Hachette Filipacchi Magazines (HFM), the New York-hased publisher. announced last month that it had published Cnr ond Driver, the world's largest car magazine, and Elle. the top-selling fashion magazine, on the World Wide Web. Working with EDS, It also plans to put several other leading magazines on to the network in 1996. It remains to be seen bow many 'readers' will opt for the networked version In preference to the glossy

copy on the newsagent's shelf.

the report letwork - become an become an anomaly in the telecoms world because user-cos

because user-cost
is not related to
distance

Explosive growth in both business and personal use of the
internet is creating bumper-tohumper data traffic. To keep

pace with rising demand, telecommunications carriers are rushing to upgrade and expand the infrastructure of this global web of computer networks.

From 1990 to mid-1995, the numbar of computers connected to the Internet rose from 190,000 to 4.8m. Each com-

numbar of computers connected to the Internet rose
from 130,000 to 4.8m. Each computer can represent from one
to thousands of individual
users. Today, more than 50m
people across the world access
the 'Net, now an ad hoc network of computer networks
without ownership or management, every day.

In the US and western

In the US and western Europe, which are served hy high-speed Internat "hackbones", and hundreds of local Internet access-providers, users frequently suffer delays or are unable to connect to popular Internet sites.

In other parts of the world where internet access is limited to low-speed links, there are even greater problems. Industry experts predict that the internet capacity crunch will get even worse as multimedia applications with graph-

ics, sound and video become more widespread. Already, the graphics-rich pages of the World Wide Web have Increased US Intarnet traffic ten-fold over the past few

To meet rising demand, telecom carriers are expanding
and npgrading their networks.
Three of tha largest US providers of Internet services, MCI,
Sprint and ANS, a unit of
America Online, have agreed
to link their Internet networks
for direct exchange of traffic.
Tha agreement means that
messages and data sent by
Internet users via the three
groups' networks will arrive
faster and with greater reliabil-

All US internet traffic is routed via one of a handful of exchanges, or access points. MCI. Sprint and ANS will in effect shorten the distance that data must travel by creating direct links among their networks.

Separately, Sprint – which claims to handla more than half of all the Internet traffic to and from the US, undertook a big upgrade of its US Internet links to eliminate network slow-downs and accommodate increased traffic.

Sprint is also building up its international Internet infrastructure. Through agreements with local and national service providers the US telecoms company has this year expanded services in China. Taiwan, South Africa, Russia and Brazil. In Russia, Sprint Networks recently expanded its Internet access service to cover the cities of Moscow, St. Petersburg and Novosibirsk. In China, the US company recently reached an agreement to link all universities, schools and research institutes by the end of this century.

The Japanese unit of Cable & Wireless unit is planning to launch an Internet service there this month with direct network connections to the US. Hong Kong and Europe.

Hong Kong and Europe.

MCI similarly, is expanding its Internet services in the US for both consumers and husinesses. Together with NTT of Japan, MCI is also creating a high speed Internet link

To meet rising demand on the Internet with its 50m users, telecom carriers are upgrading their networks

between the US and Japan. Yet the costs associated with expanding the infrastructure of the Internet will eventually be passed along to users, industry experts predict, as Internet access providers move to recoup their investments. Yet one of the primary attractions of the Internet, to date, has heen its relatively low costs. compared with private or commercial data communications networks. This stems in large part from the Internet's roots as a US government-funded research network. Now, bowever, the Internet is fast evolving into a husiness-oriented communications service. In a move that symbolises this change, the National Science Foundation, a US governmentfunded antity that founded the Internat, earlier this year decommissioned the NSFnet "backbone" that has until now provided subsidised long distance transport for Internat

In addition, the NSF and other government entities have subsidised administrative Internet tasks, including Internet address assignments, development of routing tables, directories and indexes as well as the voluminous work of the internet Society in overseeing the network. These tasks, as well as the provision of high-speed Internet backbones and network switching centers, are now being passed over to the private sector.

One example of how these changes will affect Internet users came last month when Network Solutions, the company that has taken over the joh of assigning Internet "domain names" - the names associated with individual or corporate e-mail addresses and site addresses, such as ft.com - instituted an annual fee for registering a name.

registering a name.

Users that forget, or refuse, to pay will loose the right to use their domain names, Network Solntions has warned. All new applicants will he required to pay a \$100 fee to register a name for two years, plus \$50 a year thereafter. People and

Continued nn page 25

## Evolution of 'the information society'

Continued from previous page

cent of telecom users state that having a vision is the single most important skill required for the future development of the industry. With the exceptions of AT&T and BT, telecom companies and the industry in general are failing in this area".

area".

It goes on, significantly, to point out: "Media and entertainment groups are perceived as the greatest threat to existing telecom companies by 68

per cent of respondents."

The possibility of the emergence of a single global communications industry may be threatened, in the short-term at any rate, by a significant cultural divide between the telecoms and computer industries. The inability of IBM, the world's largest computer manufacturer, and AT&T, the largest US long-haul carrier, to make much of a mark on each other's territory, despite repeated attempts, is the best

evidence of this.

The Internet, free from the regulatory forces which constrain the traditional telecoms industry and the distribution channels which determine the success of a computer company, may prove to be the common ground.

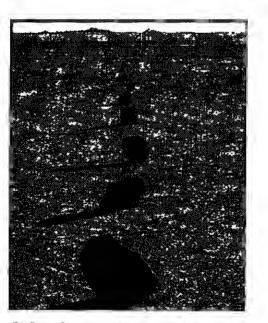
Mr Moschella of IDC introduced his audience to "Metcalfe's Law", originated by the inventor of the Ethernet, a popular technique for networking PCs together. Stated simply, the law bolds that as the number of nodes on a network increases, the value of the network increases at a proportionately greater rate. The Internet, significantly, is currently doubling in size each year.

The Internet is an accident of history. Nobody planned that it should play such a seminal role in the evolution of the information society — and it has flaws — hut it is pointing the way to a new kind of telecommunications system. The years ahead should see unprecedented opportunities for suppliers and customers alike.

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Brother.



A foreign exchange highway.



A news highway.



An oil and gas highway.

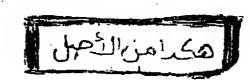


A shipping highway.

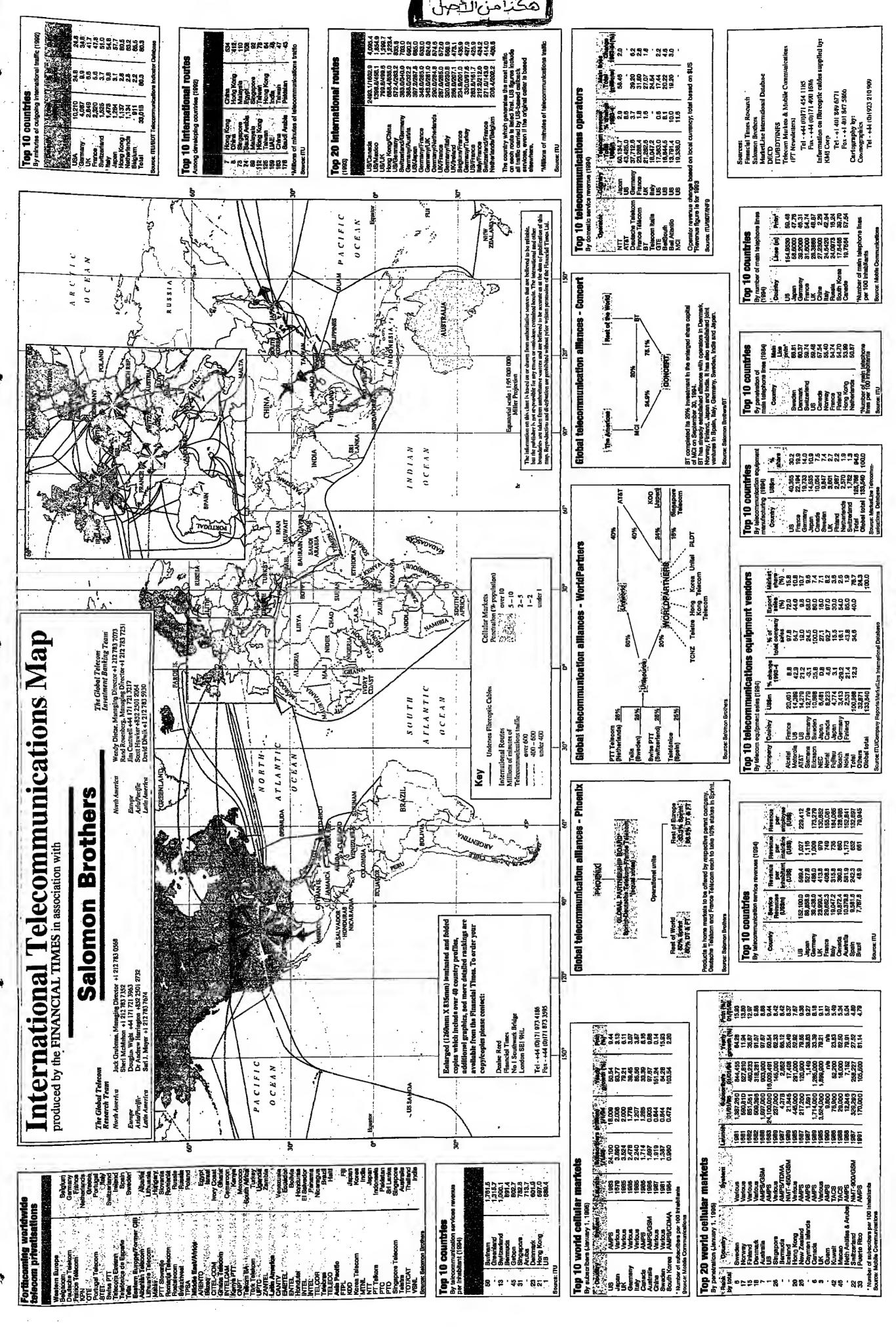


**FEDERATION** 

No matter how modern its technology, and no matter how far-flung its outposts, a communications service is only as powerful as its users make it. In an effort to learn more about the global communications needs of key business sectors, we're forming some of the industry's first genuine customer-supplier partnerships with companies in the oil, media, finance and shipping sectors – to name but four. The result is a greater understanding of their businesses, as well as a greater understanding of our own – namely the delivery of a global communications service defined by its users. To find out more, contact your local Cable & Wireless company or e-mail business.networks@cw.mercury.co.uk



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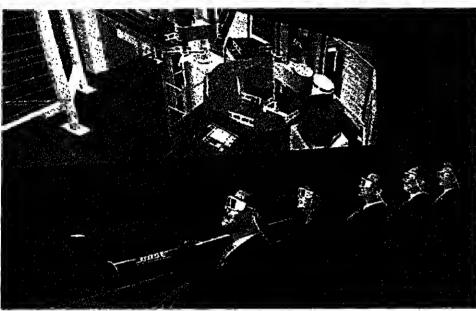


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tion for sset







 Flying the network: above, left - a telecom engineer uses a desktop virtual reality system to interact with three dimension models of complex BT networks. In the future, managers will be able to 'fly' through networks, taking a global view or pinpointing problem areas. ☐ Above: TeleVirtual has neered the live compute resentation nn television of VACtor' - meaning virtual actor. This is a real-time performance animation system which allows the volce and facial expressions of an actor to control the speech and movements of computer-generated □ Lower left: viewers in that **EDS** Detroit virtual reality centre watch demonstrations on a 24ft wide by 6ft high

■ The virtual campus: A breakthrough in Spain By Rebecca Warden in Catalonia

# Students in cyberspace

They do research in a virtual library and fraternise in a virtual cafeteria: universities may never be the same

The world's first virtual campus bas flickered into life in Catalonia, nortb-eastern

The Open University of Catalonia (OUC) combines multimedia applications, electronic mail. videos and tabes with the more traditional pen and paper, to allow people to taka a distance degree.

Using new technologies to improve the quality of distance education is nothing new. Canada's Telé-Université in Quebec and Mexico's Item Seis, for example, are already experimenting with sending students pre-recorded classes via satellite. The Catalan project, however, is the first teaching institution to be entirely huilt around communications tecbnology.

The first intake of 200 students are taking degrees in either husiness studies or educational psychology. In the vears to come, law, engineering, English, Catalan and statistics will be added to the prospectus; and by the year 2000, student numbers will have

reached 11,000. This new brand of cyber student will use a personal computer, a modem and the telephone line as essential study tools. Although basic course materials still arrive on paper in the post, the students, scattered throughout the region. will hand in essays, receive corrections and communicate with lecturers and other students via electronic mail.

Students also have access to the internet, a virtual library and a virtual cafeteria to lessen feelings of isolation. Study meetings beld twice a semester will provide fare-to-face contact, but otherwise students, most of whom hold down full-time jobs, will study at bome, setting their own timetables.

Every hig Catalan city will soon have an OUC resource centre, linked up by fibre optic cable. Here students may gather to take part in live videoconferences and debates. At the heart of the weh, in a well-heeled district of Barceiona, the university beadquar ters oversee the day-to-day running of this futuristic institution.

The OUC has been set up in a record 12 months on the initiative of the Catalan regional government. Between working frantically to meet their deadlines. OUC staff readily admit their project is highly experi-

"We are an institution that re-invents itself on a daily basis," says Francesc Noguera, head of information systems. As a new way of delivering

education calls for new vehicles, conventional study methods will be supplemented hy multimedia modules. Leading academics have been com-

missioned to provide the academic content and the OUC team is converting this raw material into interactive multimedia packages. For Carles Gay, bead of multimedia publishing, the newness of what they are doing means problems are more often conceptual than technical - bow do we go about producing something which is a multimedia materia rather than a book, but which still has educational value?" he

Multimedia will also fulfil less academic functions, such as keeping students in touch with university life. A calendar interface containing information on upcoming lectures, videoconferences and cultural and sporting events is the first programme off the production line. Multimedia interfaces act as the students' main window into the university, and are seen as key elements.

Given that the student profile is diverse, the OUC team is at pains to ensure interfaces are as user-friendly as possible. Rich Lang, Interface designer at the OUC says: "Students don't care that this building is full of networks, circuits and expensive machinery. They want to know what happens when they pop on tha com-

## Pilot group

While most students will communicate via the public telephone system. a pilot group of 15 will start off this year using ISDN, a more advanced technology which will allow them to transmit data and images at much higher speeds. As ISDN exchanges and accessories become more widely available in Spain, more students are expected to switch to

ISDN. Telefónica, Spain's main telecoms operator, has heen closely involved. It has agreed to charge students the local rate for Open University calls so that people distant from the centre will not have to pay more. This is the first tima Telefonica has moved away from the principle of charging calls according to distance, a measure of the importance it

attaches to this project. For Telefonica, the UOC is a chance to put its ISDN technology into practice on a large scale - allowing it to simulta neously iron-out technical ohlems and reach an attractive user-group.

"With several thousand students and professors using this technology, within a few years people will be used to working in this environment," says Josep Maria Canals, director of

Telefonica Barcelona. The people at the OUC are convinced their idea is a blueprint for the future. As training needs diversify and telenunications help to hreak down the barriers of distance. the role of new technologies in education looks set to grow.

"What now seems the project of a single university could become a valid alternative for all univarsities," says UOC



Rich Lang, multimedia technician at the Open University of Catalonia: staff worked long hours to set up the project in just 12 months







ring: Nuria Sala, one of the first students on the business stud course at the high tech Open University of Catalonia

Financial applications: Prospects for on-line banking at home - report by Michael Dempsey

Hardware and costing issues could scupper the best-laid plans for virtual banking

"There are so many paople with a peripheral interest in this game - but it's very difficult to see where it's going. This is the view of Mike McManus, who is an admirably forthright banker. His uncertainty relates to the emerging world of retail banking, relocated to the home.

As managing director for current and savings accounts at Barclays Bank, Mr McManus has overseen the launch of a pilot home banking service. This facility allows account information to be accessed and transactions to be processed on the customer's personal computer (PC)

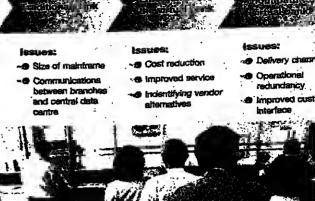
The PC hanking service began recruiting customers in July. Its remit was not, however, to suddenly revolutionise Barclays' retail offering and aholish the branch network. Mr McManus and bis colleagues know there is a hig gap between the theory of virtual banking and the arrival of an economic solution that matches consumer taste.

Barclays is using this service as a trial: it needs 2,000 subscribers to assess whether virtual hanking is a practical option. The only qualification for getting on-line to Barclays possession of a Windowscompatible PC and a modem, and Mr McManus claims that more than 2,000 people have signed up already.

Membership of this prototype system is free, but fixing a charge structure is the big dilemma in the long term for retail banks moving into virtual aervice. What will customers pay for the additional convenience, and will this rate fall below the threshold of economic viability for the service provider?

For Barclays, the customer charges are only part of the equation: one of the chief attractions is that PC banking does not monopolise computer resources. Remote subscribers are only on-line to the bank's computer system when they need to be. Setting up six new standing orders, for example, is an off-line activity, and with bome banking, Barclays systems are only engaged for the time it takes for the cuscomer to transmit the instruc at the end of 1994, and aims to tions - "it's an economy for botb parties," says Mr McManus.

"The customers are not online, and bence potentially paying for access, when they are merely looking at account information and analysing it. We are only on-line when we Virtual banking: the technology challenge Migration of technology usage by the banking industry



dump the data down to them."

also part of the consideration.

Any system that frees employ-

ees from lengthy telephone

engagements has implications

Howaver, the first indica-tions of the Barclays experi-

ment are that PC banking ser-

vices appeal to a limited

customer base. Dishing out

personal computer hardware to

customers might prove popular

among recipients, but it is not

practicable. Barclays is there-

fore restricted to doing virtual

business with those people

who already possess the right

In terms of account value,

these are not the top custom-

ers. Although technically more literate, they tend to he

younger - and younger custom-

Barclays already has a dis-

tance-hanking service, with

telephone banking facilities to

rival Midland Bank's success-

The concept of telephone

banking has proved successful:

Kelley Knutson, a senior vice

president with Visa Interna-

tional, bas publicly praised

First Direct for what he called

Mr Knutson is as keen on the

concept of virtual banking, and

says Visa is prepared to spend

tens of millions of dollars to

get a viable system off the

ground, The choice of an

appropriate service and deliv-

ery mechanism, bowever, is a

have a virtual service experi-

ment up and running in every Visa region worldwide by the

end of this year - "all our

interactive work is driven by

the type of device the custom-

ers want to use. The first and

stumbling block, he says.

lts bold initiative.

ful First Direct operation.

ers tend to have less money.

for staff reductions.

systems at home.

Bank payrolls are clearly

nism is basic telephone bank-

ing, with the customer aervice

representative at the end of the

phones, we are launching this

offering in the US, Latin Amer-

"Based on touch-tone tele-

line." says Mr Knutson.

Pacific."

Changing the role e Identifying Cross

segud obboumus Managing multiple

Customer focus

· Changing the

Source: Ernet & Young

under discussion. The additional cost means these devices will be issued to a minority of .

US customers. Visa is investigating a home banking service similar to the Barclays PC hanking experi-

lca, and Canada; and we're "Wa do have definite market investigating two pilots in Asia segmenta in mind, says Mr. Knutson. But the core questions He estimates that by mid-1996, some 50 US financial remains the same: how much will these groups pay for a institutions will be co-operating with Visa to manage card banking service that adds t their normal domestic teler accounts over the phone. This will represent 100,000 to 400,000 customers to start with, while

coms hill? Mr Knntson predicts banks will fight shy of direct charges Local and national toll-free numbers could be provided he says, which would entails. organisations like Visa absorb: ing the telecoms expenses.

There are, bowever, some Items on the credit side. Vist stands to profit from home banking by marketing its own software solutions, for example, which could bring it into direct competition with software specialists like Microsoft:

The balance sheet is also helped by the fact that Visa has a strong base in terms of existing computer network and telecoms links into banks on a global basis.

Moreover, credit cards are buge business, with 8bn Visa transactions alone every year. The annual cardholder spend-attached to the 403m Visa cards in circulation is \$630bn. Mr Knutson says this impressive activity should move with

the pace of retail technology. an answer to every economic question, but Mr Knutson has reached a useful corporate definition of a virtual service. 'Anytima, anyway, anywhere is bow we look at it. The customer will choose different access devices seven days a week," he concludes.

most logical delivery mecha-■ Virtual shopping: Downtown on the Internet is a little dull, reports Monica Horten

# days for retailers

With too much browsing, not enough buying, poor security and technical hitches, virtual shopping on the Internet is still a non-event

If you walk into Toys R Us, you expect to see toys. An ohvious statement, surely. Yet if you were one of the many visitors to the store's internet outlet in recent months, you would have been disappointed only a small selection of computer games and CD-Roms, hut no cuddly hears and train sets. And, as likely as not, you left without buy-

Not to pick unfairly on one store, one can find many other similar examples on an Internet shopping expedition. There are some 30 virtual shopping malls listed on the Internet, each of which has a number of stores attached to it. I looked at several at random. I found that with a couple of notable exceptions, they had a meagre selection of

goods in their virtual displays. Take Hammacher Schlemmer, a well-established US-retailer specialising in unusua gift items. Its Internet store contains a mere 18 items. But somewhere in the on-llne small print, we learn that there are "bundreds" of items in its stores and in its conveo-

tional mail-order catalogue. The reason is that retailers worldwide are stlll learning when it comes to online shop ping. They are struggling to work out what their customers want from an on-line service, as well as how they can best deliver it, given the constraints of today's telephone technology.

The Hammacher Schlemmer

internet Shopping Network: a third-party company based in Menlo Park. California and a subsidiary of the large US retail group Home Shopping Network.

The Toys R Us on-line store is located on BarclaySquare, co-ordinated by Barclays bank in the UK. BarclaySquare was set up as a way for the bank and UK retailers to begin to get to grips with on-line opportunities. According to Roger Alexander, managing director of Barclays' emerging markets unit, more than 160,000 people have browsed its stores, although actual sales numbers are closely guarded.

Simon Hochhauser, chairman of start-up on-lina services company Vldeo Networks, is more outspoken: 'If you look at examples of internet shopping, It is a common complaint that people browse hut they don't actually buy anything."
The first issue faced by

retailers is a technical one. Many stores illustrate their on-line offerings creatively usually their logo, a colour picture of the product and other graphic images to jazz-up the virtual store.

For the customer, download ing all that over an ordinary telephone line on to an average PC takes time; an entire store catalogue would take days, if not months. So the retailers have heen selective in the number of goods offered, and in doing so they have created an effect that is rather like walking Into a near-empty store in the former Eastern bloc.

One view emerging in the industry is that it is better to offer a larger range at the expense of on-line visuals. This may work well where the already product is well-known, and customers just want a simple way to virtual store is located on the order. The main attraction of the internet Shopping Network is a catalogue of 25,000 computer products.

Kelley Knutson of Visa; keen on

Visa bones for 1.4m US users

by 1999. Start-up costs for such

a service will be around \$5m.

says Mr Knutson. The com-

puter hardware and associated

telecommunication networks

A more radical Visa initia-

tive involves Screen Phones.

These bave emerged from

co-operation with Dutch elec-

tronics giant Philips, and will

allow customers to conduct

transactions using a screen dis-

play that illustrates the data

he adds.

the concept of virtual banking

On BarclaySquare, Blackwell's bookstore bas put its entire catalogue of some 130,000 books on offer. However, it has compromised on graphics and on information. One is simply searching a catalogue, with no hackground available on any of the titles. The result is visually boring. but it has proved a little more successful than the selective approach.

Others take the view that the impersonal nature of onlina shopping may be the reason for the small numbers of purchases. Hochbauser points to the lack of "selling pressure". When a customer walks into a real-life store. there are a number of tactics used hy the store to try to make that customer huy.

'It's like a near empty store in the former Eastern bloc'

When one goes shopping online, there is no personal contact, and no means for the retailer to exert any pressure on the customer 10 buy. Video Networks is working

on ways to introduce sales pressure into an on-line shopping environment. Possibillttes include the back-up of real sales people who could talk to the customer over the same phone link as the on-line store. The company will put its ldeas into a commercial environment with an on-line shopping service in Hull, set np jointly with the local phone company. Kingston Communications, and retail

But even when purchases do increase in volume, the retailers' conundrum will not

end. Security is a problem they are only just beginning to address, as is distribution

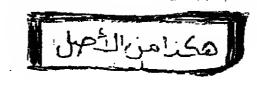
to a potentially global market. Tha Internet today is not sufficiently secure for the handling of financial transactions. And, in the on-line environment, there is no guarantee that either the vendor or the huyer is genuine.

The on-line retailers are clear about the physical security when they ask for payment - a message appears on screen, informing the customer the transaction may not be secure and that they may wish to use an alternative. such as conventional tele An assurance that the other

party is bona fide may, according to Mr Alexander, be provided in future by a trusted third party. The third party organisation would control both sides of the transaction. and be responsible for all-the necessary credit checks.

The Internet Shopping Network is an early example. Customers must sign up as "mem bers" and give a credit card number before being allowed to buy from any of its stores When they make their pur chase, they are warned that memberships will be checked and those which give a "bad address" will be cancelled. Barclays is also positioning itself for this third-party role in the longer term.

Serving a global customer base will pose an even greater challenge. According to Mr Alexander, the telecom facilities are in placa to offer the retailer a potential worldwide market, but commercial realily means it will not happen so fast - "BarclaySquare is open to people worldwide. They have to take a decision if they wish to make their goods available in other countries. And in doing so, they have to consider the tax implications as well as distribution."



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## ■ Video-on-demand: More than 50 research projects are under way around the world, writes Joia Shillingford Key technical trials face delays

Apart from technology problems, the big commercial challenge is how to make video on demand pay

Video-on-demand (VOD) will not be coming aoon to a television near you. In fact, commercial implementation of VOD which allows viewers to select the films they want - is unlikely to happen in Europe till the next century. There are a number of reasons why:

First, nearly all the video-ondemand trials have been delayed. Bryan Van Dussen, a senior analyst at the Yankee Group Europe, says: "British Telecom'a commercial trial has been dalayed by a few months and Deutsche Telekom's by stx to twelve months. There have also been delays

in the US - Time Warner's trial in Orlando is almost a year late. In addition, some US trials have been scrapped completely completely, and a number of deals have collapsed."

Where the trials ore going ahead, many are doing so with fewer customers than planned. according to John Matthewa, co-anthor of an Ovum report on interactive television.

Delays have been caused by a mixture of technical problems and commercial issues. Matthews says the Time Warner trial, one of the most ambitious, "has undoubtedly bad technical problems. And all suppliers have bad problems coming up with a good user interface,"

Of the commercial issues, the most challenging is how to make VOD pay. The Stanford Research Institute helieves tbat video-on-demand will attract users to interactive networks hut not generate enough revenue to cover suppliera

The most likely scenario is that suppliers will use VOD as the hait to lure consumers, while making their money from added services such as interactive shopping and advertising, and home bank-

ing.
"Suppliers will gain revenue

not from a few movies a week but from businesses advertising their services on interactive networks," says Van Dus-

Twelve to 16 times more is spent on advertising in Europe than on subscriptions to cable TV, according to his report on Cable TV in Europe. Providing services in addi-

tion to VOD adds to the commercial complexity of VOD. though it does not materially affect the technical complexity. Paul Sharma, a spokesman for BT. sava one reason for the trial is that It rejigged tha scope of it. It was going to be a VOD trial but is now an interactive TV trial, including VOD. services is also likely to delay full introduction of VOD. BT

says its commercial trial in the Ipswicb/Colcbester area will cost tens of millions of pounds. Matthews points out that the BT board is unlikely to agree to a nationwide roll-out without clear evidence that it pays. Most of the trials which are underway include services in

addition to VOD, with bome

Services along with video on demand will include home shopping and video games

shopping and games proving the most common. However, they may not give a trua picture of the level of take up because trialiats get some things free - for example, subscription fees - and because restricted. On some trials, says Matthews, viewers can only select old films, not recent releases. Whatever the limitations. Ovum says there are more than 50 trials taking place in different parts of the world in 1995; in the UK:

BT-owned Westminster Cable will run a beta trial of video-on-demand from November 1995 to March 1996 for 100 cable customers. It will then be opened to 1,000 customers and



'Judge Dredd' with Sylvester Stallone: big feature films like this may eventually attract viewers of emand to interactive shopping services and home banking, suggest US research

powerful server systems which

Ovum says those who are

involved in trials in more than

gradually expanded further. These customers will be able to choose from a constantly-updated video library of around 200 titles.

■ British Telecom has completed its technical trial, and had put a few BT staff on its commercial trial by late August. Commercial users will be added in September. Eleven services including VOD will be

Cambridge Cable has been running a small trial in coniunction with Online Media, a company owned by Acorn Computer, in which Olivetti is involved. The trial has included video-on-demand and a lot of educational material and games - 100 users are soon to be involved in the project.

Ovum says North America is closest at present to a commercial roll-out, ahead of Europe and Far East countries. However. Hong Kong Telecom, which did not begin its trials till the second half of 1995, seems likely to be one of the first offering interactive TV services in mid-1996.

A variety of cabling is being used for the trials including coax cable (favoured by cable TV networks), standard copper phone lines (favoured by phone companies) and fibre optic lines (favoured by anyone who can afford them because they have greater capecity). For example, British Telecom's commercial trial will use copper to the majority of homes and fibre to a fifth.

in addition to telecoms suppliers and cable companies, a number of other suppliers are IBM and Philips. keen to seize a share of the VOD. These include hardware companies which provide the

films, database software suppliers, and companies providing the hardware and software for the set-top boxes customers will use to make their selec-It is not yet clear who will emerge es market leaders.

one continent include Digital Equipment, Oracle, Hawlett-Packard, Silicon Graphics,

Equally unclear is what Interactive services users will be prepared to buy. But Van Dussen says: "If anything gives an indication of how interactive services will develop, it is the internet ithe global electronic mail and information network]. Some of the most successful interactive television servicea will develop directly from the Internet."

In the meantime, a number

of cable TV companies are

In Canada, Videotron used four channels to cover a foot-

and 'feel' interactive but are less complex to deliver. hall match. Channel B showed the same match as Channel A but delayed by seven seconds.

This enabled users to switch

between the two and get an

## instant replay. Experimental projects in the US are the most advanced so far

Channel C showed the match from a different camera angle, making users feel as if they were in control of the cameras. And Channel D gave match statistics, such as who commit-

ted the last foul. 'Near video-on-demand,' another service many cable companies are thinking of offering, also gives the user more control. Popular films are shown on a number of channels, but with staggered starts - so users never have to wait more than 15-20 minutes for their chosen movie.

The writer, Joia Shillingford is Associate Editor of the Financial Times newsletter. Business

## Internet access costs may rise

companies that already own a domain name must pay \$50 a

It is not only government subsidies, however, that have kept Internet costs down. Until now, internet access costs for users in the US and many other countries have been hased on a flat rate fee designed to cover any long-distance communications costs incurred by the access provider. Thus, most internet users pay the same amount wbether they are sending messages across town or to the

other side of the world. Inter-

net service providers pass traf-

fic to each other under a "zero

settlements" policy. This

means that fees are not exchanged between carriers based on the source, destination or volume of network traffic handed from one carrier to the next.

The Internet has thus become an anomaly in the telecommunications world because cost is not related to distance, While there is likely be strong user resistance to any change in flat-rate pricing for the Internet, some experts predict tbat prices will nonetheless

Already some Internet providers have mooted the idea of establishing a scale of fees for different types of applications. Thus, while simple electronic mail messaging might remain inexpensive, users that send or

receive multimedia "multicast" signals which consume high bandwidth capacity would pay a premium.

More likely, suggest industry analysts, is the emergence of varying levels of Internet service at differing prices. Businesses, for example, may choose one of the "value added" Internet services such as IBM's Global Network or AT&T'a recently introduced WorldNet "managed Internet

While businesses may be prepared to pay more for reliable Internet access services, the consumer segment of the market is more price sensitive.

New options for Net surfers: see page 32, in Part Two

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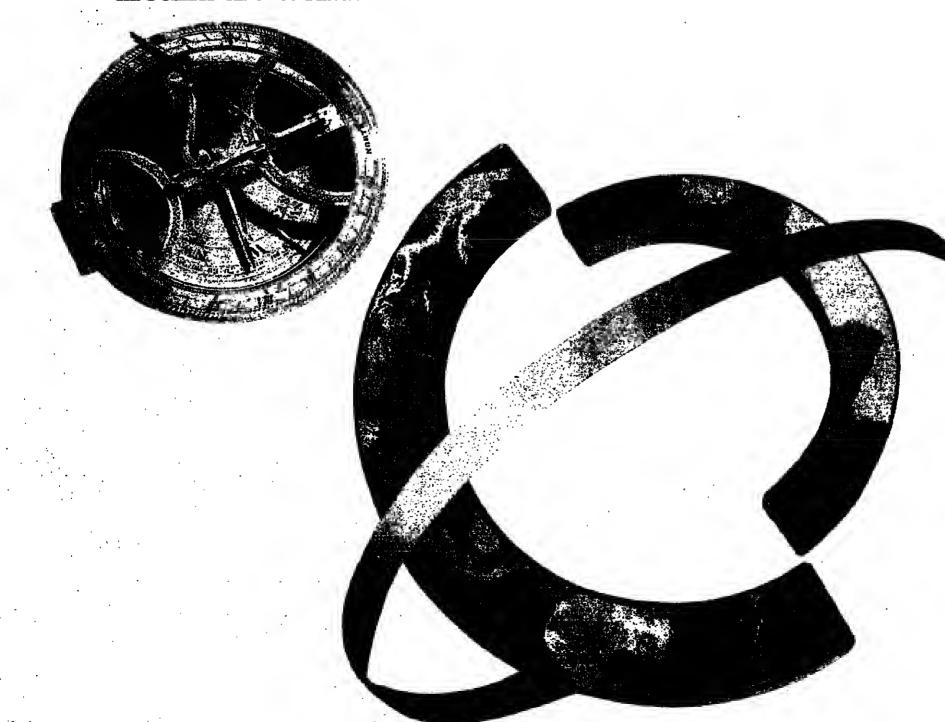
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repeated VOD technical delays



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# tor greater diversity

Business leaders are concerned that Japan is falling behind in the race towards an advanced telecoms age

For several years the Japanese public has been waiting expectantly for e small revolution in the domestic telecommunications industry.

Gone were the days, people were told, when the good old telephone in the home or office was the only really expedient means to communicate over dietances. New technology, new services and new rate structures that would emerge with deregulation would spur entirely new uses for the telephone line and dramatically change the way acciety goes

Ten years after NTT, the former public utility, was priva-tised in 1985, Japan's telecoms environment has indeed undergone significant change.

Instead of the two carriers - NTT and KDD - which respectively enjoyed a monopnational call markets, there are 111 "Type One" telecoms carriers operating their own networks, according to the Ministry of Posts and Telecommunications.

The number of "Type Two" carriers, which provide communications services but do not own their own network, has grown from 90 some 10 years ago to more than 2,100. the MPT notes in a recent report. The entry of new carriers over the years has spurred competition which, in turn, has belped to lower prices and introduce new services.

For example, the rate for long-distance calls between Japan's two largest cities. Tokyo and Osaka, has dropped steadily since liheralisation and even in recent years NTT has cut its long-distance rate for a three-minute call from Y400 in 1988 to Y180 today.

The cost of a leased circuit has fallen by nearly a third in the six years since the new carriers began leased circuit operations, notes the MPT. New telecoms husinesses are increased competition and deregulation. In mobile phones, for example, the liber-alisation of handset ownership last April has triggered a surge in supplies of, and demand for, cellular phones. Mr Makio Inui, industry ana-

mates that the number of handset suppliers has more than doubled since handset liberalisation. Cellular phone penetra-

tinn - which was at 1.7 per cent at the end of March 1994, rose to 8.5 per cent in a year, says Goldman Sachs, the US Securities Company, in a recent report. Meanwhile, the personal

handy-phone aystem, which uses small, digital phones that cost significantly less than conventional cellular phones, began operating in July this year and has taken off to a

In certain respects, Japan's telecoms market has undergone tremendous change. Nevertheless, there is a widespread feeling that further, more fundamental, change is crucial to the healthy development of the telecoms industry in the next

Industry groups, consumers and bureancrats in the telecoms ministry share a common recognition that much needs to be done to ensure that Japanese users will be able to enjoy the henefits of rapid technolog lcal changes taking place in the telecoms industry.

The growing consensus among business and government leaders who are concerned that Japan is falling behind in the race towards an advanced talecommunications age - and usera who are unhappy about the high costs and the lack of diversity of services - is that the telecoms market is suffering from a lack of competition.

"Greater competition in the form of diverse services is crucial for the further, continuous development of the telecommunications market," the MPT notes in its 1995 annual report.

This is not to say that competition does not exist. NTT. the former public ntility, and the new long-distance carriers compete vigorously in the long-distance market. With the

In 1985 the liberalisation of Japan's

telecommunications industry allowed New

Common Carriers to enter the market. Last year

the telecoms and multimedia-related market was

worth ¥16.5 trillion or £103,125 million. By

Three long-distance NCCs now compete directly

with the former state monopoly Nippon Telegraph & Telephone Corporation (NTT) offering long-distance and leased line services. Among the NCCs Japan Telecom was the first to

establish a nationwide digital network primarily

composed of high-capacity fibre optic cables.

Laid end-to-end, the cables in the company's

7.500-kilometre trunk network would stretch

from Landon 10 Chicago. An amhitious

investment programme is about to hegin that

will expand the network to over 10,000

Japan Telecom's dominant shareholders are the

seven companies in the Japan Railway (JR)

group. As the IR Group carries more passengers

over more miles than any other rail network in

the country, so Japan Telecom's cables installed

along JR tracks give the enmpany a greater

potential subscriber base at lower expansion cost

lts digital fibre nptic network also enables Japan

Telecom to offer an ever-grawing menu nf

multimedia services such as interactive video

without the capacity constraints of its rivals. The

company is also introducing products to attract

new subscribers including digital cellular phone

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\* Ministry of Posts and Telecommunications forecast

Corporate Planning Divisinn

London to Chicago, around Japan

kilometres within five years.

than any other NCC.

2010 it will be worth ¥123 trillion.\*

also thriving as a result of liberalisation of the celiular increased competition and phone market, competition in tbis sector has also been

> However, the sheer size of NTT, which is the largest telecoms operator in the world in terms of market capitalisation. and its virtual monopoly over the local network, are regarded as important impediments to fostering effective competition in the domestic telecoms mar-

The point was underlined recently when the new carriers complained to the telecoms ministry that NTT was hindering their efforts to introduce new services by refusing to agree terms for interconnection with NTT's local network. In a highly publicised case, Japan Telecom charged that

Japan's NTT is now the largest telecoms operator in the world, in terms of market capitalisation

for more than two years NTT had prevented it from offering frame relay services by refusing to agree to conditions for

The NTT camp, for its part. charges that the new carriers have not been enthuslastic about competing with NTT on services. The hasic rates charged by the three new carriers and the new types of services offered are more or less identical with each other, notes Mr Masao Homma, presidant of Infocom Research, a marketing consultancy majority-owned by NTT. The new carriers have been neither creative in their service offerings nor aggressive in promoting those services, he says,

With the Japanese government scheduled to make a decision on NTT's fate by the end of the current fiscal year in March, the consensus among industry analysts is that NTT is most likely to be dismembered into a long-distance carrier and several regional carri-

The MPT has certainly been in favour of breaking up NTT. which it believes is the best way to ensure fair and effective competition in the indus-

Meanwhile, strong opposition to a break-np is coming, mainly from NTT itself - with other interested parties, such as the Ministry of Finance which still owns 65.5 per cent of NTT shares, and the Keidanren, the powerful husiness organisation, reserving judg-ment for the time being.

Although the tide appears to he turning in favour of a break-up, the crucial question the government faces is whether a hreak-up in itself can ensure adequate competition in both regional and ong-distance markets.

The argument is that even if NTT is broken up into several regional operators and a long-distance operator, the regional operators will still have an effective monopoly of their territories.

Despite a number of meaaures the MPT has already adopted to ease market entry. new competition bas been painfully slow in emerging. For example, although there are no formal rules preventing CATV companies from providing telephone services, not a single company has yet applied to do so, the MPT says.

In this respect, trading companies which have been investing beavily in the information communications industry could play a key role in promoting ties between various operators, which in turn could form the basis for effective competition against NTT, suggests Mr Akiyoshi Hayakawa, industry analyst at Nikko Research Cen-

Mr Akiyoshi helieves that alliances between trading companies. CATV companies and foreign CATV companies or between long-distance companies and CATV companies could redraw the industry map within the next three to five

Whatever the outcome of the government's review, the hope that it will represent the rting line, rather than the goal, in the ministry's mission to foster the fair and effective competition it professes so vigorously to seek.

Wiew from the top: By Masashi Kojima, President, Nippon Telegraph and Telephone

The age of convergence 'We are entering an

age in which the strongest individual carriers and consortia will compete and collaborate with each other,

There has been dramatic progress in the world economy this century led by the automohile industry and supported by developments in telecommuni cations, electric power and transport.

People now have the freedom to travel and make more effec tive use of their time. Boundaries to economic and social activity are being removed.

tions technolgy will continua to hava great impact. NTT has boosted the transmission performance of its optical technologies one hundred fold over the past 15 years. The time is approaching when multiple, low orbit satellites will enable wireless communication across the entire face of the earth.

In addition, network computing has become a decisive element in the creation of the industrial infrastructure of the 21st century.

When individual computers are harnessed together in networks, the impact will be felt not only in industry hut throughout society. There will be cultural changes. The outstanding example of this is the dramatic worldwide expansion of the internet.

What is special about computer networking is that digital technologies have made the creation, transmission and handling of information simple and cheap so that computing can be dispersed through society. Indeed, from a sociological perspective, the value of computer networks is their capacity to distribute information and knowledge, a second revolution on the scale of the introduction of moveable type print-

Whereas information was traditionally moved one way only, with the general public confined to a passive role as receivers, citizens are now gaining the tools to create an open world.

On the economic side, such etworks are destroying the boundaries between traditionally unconnected areas of industry. They are generating international competition and collaboration in the flow of goods, services and finance. We can already use a computer on our desk or in our lap to



purchase goods, or make a presentation.

Telecommunications markets in nations worldwide are also undergoing npheavals. The most developed economies operated government-run monopolies until the mid-1980s. They then embarked on a process of liberalisation that saw the introduction of competition into the market.

This happened most readily in long distance services while at the time, regional communications markets often continned to retain effectively nearmonopoly status.

US example

The prime example of the process is what bappened in the United States, where AT&T was split up and a similar approach has been employed in Japan. Now, technology advances have begun to force recognition of tha latent competitive potential of regional

telecommunications markets. The US is revising its communication laws to revise the formed the basis of the AT&T hreakup, therehy enabling long-distance and regional carriers to enter each others' market while opening regional markets to competition.

In the UK, too, competition is now allowed throughout the industry, with cable TV operators able to offer regional telephone services. The other advanced economies are treading similar paths. Two points on which particular attention should focus are the usa of open networks by which new market entrants can use the networks of the existing dominant carrier as a means to promote full competition, and the eliminatinn of distinctions between different kinds of service that follows the removal of borders in the communications market.

These changes have prompted the governments of most of the world's leading economies to adopt an approach that recognises the positive impact of the dominant national carrier, as an industrial infrastructure, on a county's industrial strength and aims to promote competition without dividing the carrier and dissipating its benefits Moreover, we see two major

factors in future developments. The first is that the greater cross-border distribution of

activitiae by corporations glohal networks. Rivalry batween carriers from the advanced economies keen to participate in the telecome infrastructure creation programmes of developing nations shows that global competition is becoming a reality.

The other factor of impertance is the convergence of industries, as technological innovation brings together a world in which movers of goods, information and money can carry on husinesses on computar networks. This means we are entering an age in which the strongest individual carriers and consortis will compete and collaborate in a borderless global market

In building the Global Information Infrastructure (GII), it is important not to lorget that information communication is an infrastructure of the industries of the future. There is a real danger that differing speeds of development could lead to a worsening of North-South economic and environmental problems. To address this issue, distributed and independent networks are the key. From the perspective of users, the network should be seamless: from the perspective of those building it, it should be

We recognize the benefits of competition in providing customers with the best cnality eervices and we have been aggressively pro-activa in opening our networks. In addition, the revision of various regulations to permit competition in regional markets will further invigorate the Japanese communications market.

In June 1995, NTT announced the concept of a new network for the coming multimedia age. We are now moving ahead with construction of an Open Computar Natwork (OCN), a type that has never been employed by a telecommunications carrier. We intend to work with other companies through joint multimedia utilisation tests hased on a high-speed, broadband, backbone network and the construction of an Electronic Commerce Network.

The construction of these

networks and application platforms, and the open connection of the OCN to such networks as tha Internet, are the basis for an Global Open Computer Network (GOCN), a new channel for the flow of information on a global scale. These are action. We regard this as a definite first step toward a joint future, and we hope that you agree.

NEC: Manufacturer profile. By Michiyo Nakamoto in Tokyo

Recent moves reflect NEC's interest supplying the European equipment market

The grawth in personal communications at home and the global race to invest in advanced communications infrastructure bave been a significant bonanza for NEC, one of Japan's largest telecommu-

nications equipment suppliers. Although it pales somewhat beside the strong increase in NEC's semicooductor husiness. telecoms provided firm growth of 6 per ceot last year and is expected to he a significant contributor to the company's fortunes for the foreseeable future.

The strength of telecoms demand in Japan can be attributed largely to two developments which are greatly expanding the uses of telecoms - tha popularity of mobile communications and the excitement over multime-

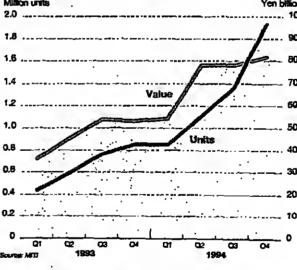
After the Ministry of Posts and Telecommunications liberalised the sale of cellular phone handsets in April last year, the market took off and a wider choice of bardware and services became available.

NEC is a top supplier nf systems for personel handy phones. While a 20 per cent increase in cellular phone handset units has not translated into higher sales in value terms - due to sharp price falls on the market - the systems side of the business has provided NEC with substantial growth in sales.

At the same time, activity in the Japanese telecoms industry is being sparked by a push to upgrade the country's infra-structure and lay the groundwork for new multimedie ser-vices. NTT, the country's largest telecoms operator, is forecasting capital speeding of Yl 930bn in the year to next farch - the largest figure in the company's history.

Of that amount, Y460bn will

Japan's production of cellular & car telephones



lines. However, the digitalisation of NTT's trunk lines has been completed so that for Japan's large equipment suppliers, which focus on trunk equipment, demand from investment in digitalisation is levelling off. However, they are, in turn, finding strong demand for applications.

Mr Botaro Hirosaki, general manager of NEC's telecoms infrastructure technology, says that demand is finally beginning to emerge for epplications uslog NTT'e integrated ser-vices digital network, which was completed about five years

New exchanges

A growing number of corporate users are seeking to install customised, multi-point videoconference eystems, using ISON technology, which is increasing demand for private branch exchange

Overseas. NEC has seen growth in PBXs on the back of strong demand for software applications, such as advanced reservation systems, voice messages and movies-on-demand at hotels. Meanwhile, as NTT focuses

go towards the digitalisation of this capital spending on install-

switches and transmission ing fibre optic links to the street and home, the spreading need for high-speed data communications to support local area networks or multimedia applications, for example, has prompted buoyant demand for asyncbronnus transfer mode (ATM) nelworks. In order to meet growing

needs. particularly emong businesses, for bigh-speed data communications. Japanese car-riers are increasing leased line capacity from the current 64-kilohits e second. or 1.5-megahits a second to 6 and even 50 megahlts a second, with ATM switches, which are the "ulti-mate multimedia instrument," employed as the central switching unit. says Mr Makio inui, industry analyst at Klein-

wort Benson, ATM switches, in particular, are an area where Japanese companies are ahead of their western competitors, and Mr Inui expects demand for these products to grow in the US as well. where NEC already sup-plies to GTE and Sprint, while Fujitsu, the leader in ATM switches, supplies Bell South and Nynex among others.

Mr Hirosaki believes growth
in multimedia communications

will continue to provide the industry with promising mar-

kets. NEC is keen to expand its operations outsida of Jepan, where the large fiva domestic manufacturers - NEC, Fujitsu, Hitachi, Toshiba and Mitsubishi Electric - still rely on NTIbound husiness for one third of their combined telecoms revenues, according to Mr Inui:

Their prospects are fairly promising in North America and Asia, where markets are competitive but more or less

In North America, the nationwide move to upgrade the infrastructure has maintained demand for their ATMs, while in Asia, the economic growth of the region makes it a promising market, although Japanese companies are competing vigorously among themselves and with the Europeans.

The hig challenge for Japaneae equipment makers remains Europe. Officials at NEC admit that it has been very difficult for the company to supply the European market where close ties between the telecoms carriers and local manufacturers remain bairlers

to entry by outsiders. Despite that obstacle, recent moves by NEC, which bought a 60 per cent stake in a Portuguese telecoms equipment maker, reflect its keen interest in gaining a foothold in the

European market. "Europe is moving to liberal ise its telecoms market in 1998, and while I don't expect to be able to sell large switches, we might be able to supply medium and smallar ones, especially those using ATMs,"

says Mr Hirosaki. NEC bopes that its stake in the Portuguese company will give it a reliable ally that can represent its interests in EU committees related to telecoms and provide It with a route into market supplying European PTTs.
They are desperate to get

into Europe, because Europe is the only closed market where making an effort will make a difference and where if one company takes a lead, it will be able to differentiate itself from other Japanese competi-

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China: Beijing gears up for a massive modernisation drive. By Tony Walker

# Planners face critical period

Investment of \$35bn will be needed by 2000 to attain even modest short-term goals

China could not be accused of under-estimating the task it faces in bringing its telecommunications up to a standard that will bolster economic development, rather than weigh heavily on the modernisation drive.

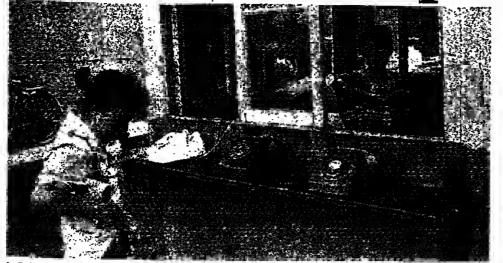
Wu Jichuan, the Minister of Posts and Telecommunications, told an international symposium in Beijing in April that "insufficiency in telecommunications capacity and shortage of services has been a major factor affecting China's opening up to the outside world and restricting China's economic growth".

But Mr Wu pledged that China would continue "large-scale" development of its telecommunications with the aim of completing a public communications network covering the whole country by the year 2000 to meet basic needs. This is no small task.

Investment of Yn450bn (£34.30bn) will be required in the period 1995-2000 to enable China to reach its telephone penetration target of eight to nine telephone sets per 100 people nationwide, and 30 to 40 sets per 100 in the cities. (At the end of 1994 the figure stood at 3.2 per 100 nationally, with density in the cities of 13 per

China has not yet released details of its ninth five-year plan (1996-2000), but an outline of what is envisaged for its telecommunications has been widely circulated.

According to a recent position paper issued hy the Ministry of Posts and Telecommunications (MPT), the telecoms



In Beljing, a woman checks the radio-pager on her belt, whilst using an old-style manual pay phone, at a pay-booth. China faces an uphili task to provide basic telecoms across entire nation

sector faces a "critical period" between now and the end of the century in realising its targets. "We are faced with both unusual opportunities for development and severe challenges," the paper said.

With the informetionalisation of the national economy, there will appear a situation where a basic service market and an information communications market co-exist, which may add to pressure on the posts and telecommunications

in other words, competition from rival networks such as the newly-established China United Telecommunications (China Unicom) will make life more difficult for the existing

The paper forecast that hy the year 2000, the communications industry will have 'basically adapted" to the needs of the national economy, but services would still fall short of the more sophisticated requirements of what was described as the "information society." By 2000, it said, China would have some 140m phone lines in service, each urban bousehold would have one telephone, and the waiting time for installation would be shortened to one month. Waiting time is now between three and six months.

By 2010, 420m lines would be available, and a "broadband integrated digital network" would be in place to provide interactive multimedia services in the cities and developed coastal regions - China's version of the "superhighway".

in 2010, the paper forecast. telephone penetration would have reached 25 sets per 100 nationwide, immediate phone installation would be available. and each village in rural areas would have access to a telephone line. China's postal service would elso bave grown enormously to 25 letters per head a year, or about 30bn items, compared with 10 per bead in 2000.

This year, China plans to spend Yn80bn on further upgrading its telecommunications, adding 14m telephone lines and achieving a tele-

phone penetration rate of 4.2 lines per 100 people nationwide and 17 per 100 in the cities. The MPT is budgeting for revenues of Yn96bn, or a 38.5 per cent increase over the last year.

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The MPT has also been seeking to involve foreign telecommunications companies in its service in an attempt to accelerate development, but a ban on actual foreign participation in the operations of networks remains in place, with no sign of being lifted.

## Experiments

As Mr Wu said in April: "We shall, through experiments at selected places, explore new ways of ntilising foreign capital...on the condition that they (foreign companies) will not hold equity or be involved in the operations and management of the telecommunications businesses.

China's MPT, in anticipation of botter competition from the rival Unicom and possibly other new networks, has also been striving to position itself

"superbigbway" tied to the Internet. The MPT began experimental links with the internet in April, and took the service commercial in June. Business clients are the main target for the new service. However, the MPT, whose

monopoly had eppeared unshakeable, is facing a spirited challenge from Unicom, and other new entrants to the communications field. In July, Unicom gave notice of what was in store when it started a new digital mobile phone service in China's four largest citles, breaking the existing

Over the next five years, Unicom, which is owned by a powerful coalition of interests including the ministries of railways, electronics and electric power, plans to spend billions of dollars on new networks, according to a recent report in China Daily.

The paper quoted Zhao Weichen, the group chairman, as saying that by the turn of the century Unicom aimed to be providing 30 per cent of China's mobile phone services and 10 per cent of its local and long-distance phone services. By 2005, Unicom intends to

have its own national network in place, and hopes to become one of the world's telecom giants by 2010, Mr Zhao said. This hardly suggests that Unicom intends to play second fiddle to the MPT.

Indeed, company spokesmen are making no secret of their desire to take on the MPT, and not simply provide supplemental services. "Now, we are so small that we do not pose any threat," Ding Weidong, chief of international co-operation at Unicom, said recently, "But we already can cover all basic telecom services and, in future, we

■ Vietnam: Investors have worried about a fog of contradictory decisions by the authorities, reports Jeremy Grant

# Hanoi sends out mixed signals

Confusion 'reflects political jockeying. ahead of a crucial party congress'

In 1986, there were only nine, crackly lines connecting Vietnam to the outside world, most of them to the country's main then henefactor, the Soviet

Today, however, the situation is radically different, with a multitude of switching land lines providing most of the country's urban population with telecommunications services of what industry experts say is a reasonable standard.

Vietnam has ambitious plans to build on this, hoping to install three telephones per 100 people hy the year 2000, up from a meagre 0.33 telephones per 100 people now. It is particularly concerned about how to ensure access for its massive rural population to telecommunications services. It hopes to attract \$2.7bn into the whole telecoms sector by the year

However, perhaps the higgest question that faces the Vietnamese anthorities and any foreign investor considering bidding for business in this theoretically promising market is one of policy.

Foreign investors with experience of doing business with the Department General of Posts and Telecommunications (DGPT) and its affiliate Vietnam Posts and Telecommunications (VNPT) say it is often difficult to cut through the fog of apparently contradictory decisions that are increasingly

The latest confusion concerns the operating monopoly held by VNPT, which is the state-run operator, answering or DGPT. In July local newspaper report said that Hanoi would allow VNPT's long-standing grip on the operating side to be challenged by e commercial telecommunications subsidiary of the Ministry of Defence, Sig-

## Expectations

Foreign telecom officials, based in Vietnam, had long expected Vietnam to deregulate the market and Were encouraged hy the move. which was billed in the newspaper report as having the blessing of reformist Prime Minister Vo Van Kiet. Indeed, many companies such as US West AT&T and Motorola of the US had been talking to the ministry about a \$1bn package

work with the involvement of the northern port city of Hai-US investment banks.

Yet a week later, the same newspaper, the weekly Vietnam Investment Review, published a statement from the Office of the Government effectively the premier's cabinet office - denying that the VNPT monopoly had been broken. The military would merely be allowed to enter into joint ventures with foreign companies to manufacture telecommunications equipment. It ing network.

Industry officiais In Hanol say privately that the confusion reflects political jockeying within the leadership ahead of a crucial party congress next year and that the military will in fact set up a rival network. But this is of little comfort to foreign investors seeking clear policy guidelines as they hope to expand business in what is seen as a potentially lucrative market

Britain's Cahle & Wireless. France Télécom and Australia's Telstra have been wooing VNPT for contracts to set up operating systems in Hanoi and Ho Chi Minh City, without concrete results, Indeed, the only firm deal on the operating side is understood to be one signed by Korea Telecom with to develop a rival military net- the municipal authorities in Telstra sources say they are for early to mid-1996.

phong. However politics is not the only impediment, industry experts say that although there are clear signals from Hanoi that it welcomes foreign involvement in telecommunications, the terms and conditions of any involvement are

still unclear. Under Vietnamese law, forelen companies are not allowed to enter into fully-fledged joint ventures with Vietnam on the operating side. The looser Busi-(BCC) is the only option.

Most foreign companies with presences in Vietnam and plans to invest in urban land line or wireless installations have yet to hear from the Vietnamese authorities how long any BCC might last. Topping their list of concerns in this regard is what kind of revenuesharing ratios are likely to emerge in any eventual BCC

## Revenues

The only guide so far seems to be a BCC signed some years ago by early bird Telstra, which installed International Direct Dialling (IDD) capacity In Vietnam over three years ago and bas a generous but undisclosed share of revenues.

sion of the existing, \$197m BCC, which runs out in 1996. and industry experts say it is unlikely that they will secure the sort of arrangement they had with the original contract. Meanwhile Singapore Tele-

shortly negotiating an exten-

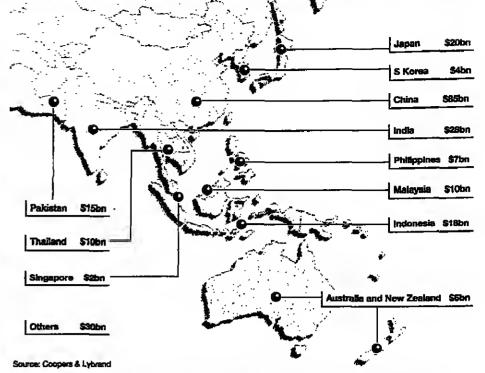
com, for example, is still waiting to hear whether it will clinch a BCC for a mobile cel-Jular system it installed on a trial basis in Ho Chi Minh City as far back as 1992. Another issue on foreign

Vietnam will limit the number of foreign operators it will allow into the country given its record on accepting switching systems. No less than 12 different types of switching system are operating in Vietnam, mostly the result of hlind acceptance by cash-strapped provincial posts and telecoms authorities of often secondhand technology offered hy foreign companies.

They clearly understand the need for foreign investors," says one Hanoi-based foreign telecoms consultant. "But if you have a series of operators, it would be a hig mess."

Most foreign telecommunications officials say answers to these questions are unlikely to emerge before the eighth party congress, which is scheduled

## Asia-Pacific telecoms investment requirements 1995-2000



■ Asia: Telecom markets will accelerate rapidly, writes Jenny Walker

# Leading the world in network growth

There is pent-up demand for new telecom services across the region

Asia's booming telecoms markets are expected to see a significant shift in emphasis in the second half of this decade as the world's largest developing economies unveil their most exciting investment opportunities.

in response to what analysts are dubbing Asia's 'third wave' of telecoms reform, China, india, Indonesia and Vietnam, are on track to become the next generation of countries in line for massive telecoms investment and growth.

india's new-found magnetism appeared late last year when more than 300 companies from all over the world responded to the offer of a slice of its undeveloped telephony market. A year on, 16 consortia including US telecoms giants such as AT&T. US West and Nynex stepped forward to offer \$35bn in licence fees to the public purse - a sum equivalent to double the national operator's \$2.5bn annual budget for the next 15 years.

A similar frenzied response came to indonesia's call for five private sector groups to construct and operate large work. NTT, France Telecom, US West, Telstra, Telekom Malaysia and Singapore Telecom along with local joint-venture partners, are expected to inject around \$5bn in licence fees and revenues into the sector in addition to 2m privatelyfunded lines.

Telecoms analysta are already prophesying that some early investors will get caught out in the current wave of emerging market telecoms fever, but statistics from the International Telecommunication Union, the ITU, only serve to confirm the basis of these new investors' perceptions: after a decade of rapid growth, the region not only continues to lead the world in the pace of network growth, but this incredible pace is accelerating. Seven of the world's fastest

growing networks are to he ITU's Asia Pacific Telecommunicotion Indicators, and mainline growth in the region was around double the world average last year. Yet with penetration rates as little as less than one per hundred head of population In most of Asia's big emerging economies, there is plenty of scope for growth. Pent-up demand for telecoms services has surged in response to strong economic expansion, population growth and increas-ing urbanisation. Analysts at the consultancy. Coopers and

## Telecoms investment in Asia Figures for 1994 in US\$

S million	S per Inhabitant	As a percentage of revenue
1,802.7	101.0	17.4
120.3	1.0	61.7
	6.7	128.4
523.4	89,7	15.0
1,610.9	1.8	59,9
	5.4	68.7
23,481.1	188.1	.,,35.7
3,364.2	81.8	52.7
1,219.4	62.5	71.2
54.6	1.2	28.6
265.0	75.1	15.7
563.6	4.6	65.8
371.8	5.7	49.2
342.5	121.5	14.9
223.3	12.3	129.4
1,790.7	84.2	33.9
187.4	3.2	10.4
88.3	1.3	132.6
n 23,346.8	90.5	13.1
	\$ million1,802.71,802.7	1,802.7 101.0120.3 1.0

Lybrand, estimate that China Both these issues are expected will need a further \$85bn to meet its growth targets to 2000. while India will require around \$38bn, Pakistan some \$15bn

Of the total \$240bn that the region is looking for by the end of the decade, the consultancy believes some 55 per cent will come from internal funds, 14 per cent from corporate equity,

In spite of the high growth expectations, analysts are advising caution

25 per cent from corporate debt and the remaining 6 per cent from project finance.

This variety of financial tools was not even available to its emerging telecoms markets. five years ago. The next batch of Asian telecoms issues waiting in the wings are expected to be so attractive as to be unaffected by any lingering negativity on emerging market

First in the line is Total Access Communications, a subsidiary of the SET-listed Ucom group, which as a pure-play on cellular in Thailand is almost guaranteed to ettract broad investor interest.

Next will come Indonesia's domestic carrier, PT Telkom, which expects to raise around \$3bn and then hopefully, Korea Telecom to round off the year.

to prove extremely attractive as long as they are reasonably priced. After these will come the next two years along with a deluge of cross-border mergers and acquisitions activity as foreign operators team up with

"We will be seeing a lot more of the Satelindo-type deals, where local operators look for international partners - companies looking for finance and assistance in competing." says Mr Adam Quinton of Merrill Lynch in Singapore.

During the past 18 months, a growing number of second-tier players have tied with strate gic partners: these include Satelindo, indonesia's second international operator and cellular service provider with DeTeMobil, Deutsche Telekom's cellular subsidiary, in a \$586m deal; Malaysia's aecond network operator Binariang with US West which took a 20 per cent stake; Philippine cellular franchisee Globe Telecom with Singapore Telecom, and

Mr Quinton believes that the leck of a partner, even for national operators may increasingly be seen as a negative factor among potential investors as they provide the pulling power to raise capital capital which will be in shorter and shorter supply.

many more.

tions (PTC) will he the first Asian national operator to



Pause for thought: a bored attendant, amidst a circle of phones in the trading ring at Bombay Stock Exchange, during a break in trading, India invested more than \$1.50n in new telecoms last year Picture by Savin Kricker, Reuter

# ■ Pakistan: Prospective investors await a 26 per cent share offer in PTC. By Farhan Bokhari in Islamabad A rocky road to privatisation

has been dented in the past year

With the year about to end, it is almost certain that Pakistan will fall behind its earlier plan to offer up to 26 per cent of the shares of the PTC (Pakistan Telecommunications Corporation) to a private investor by December.

After more than four decades of state control, the road towards privatisation for the PTC has been far from smooth. Emerging from a series of controversies, the government'a PTC sale plan - almost five years after the initial decision to deregulate the telecommunication sector - envisages selling a 26 per cent chare and transferring management to a The outcome of the PTC

private owner hy spring 1996 offer could well decide the fate of the country's privatisation programme, as many officials remain convinced of its importance for the sale of other public sector utilities. So far, there are many reasons to be concerned, based on experience during the past five years. The first privatization initiative quickly became bampered by Objections from the country's defence and security officials. concerned that vital national

Investor confidence security interests would be the possibility of similar setsector went to private control. These were resolved by a commitment from the government to create a smaller telecommunications company for

the exclusive use of defence

services from the money raised through the PTC's sale. In the latest preparation for the offer, Morgan Grenfell, the international investment bank, has now heen appointed the financial advisor for the deal. The move has helped to calm

recent concerns that the initiative would be further delayed after a spectacular fali in PTC's share prices by over 50 per cent during the past eight months.

Investor confidence had earher been dented in the wake of last September's sale of 11 per cent of the company's shares in a public offer which fetched \$900m.

The offer became controversial after it was found that the documents prepared for the deal had overstated the number of telephone lines, which in the view of some analysts, exaggerated the company's potential for future profits.

Investors were told thet up to 2.5m phone lines were in operation up from the actual number at just over 1.8m. In spite of investors' concern over

compromised if the telecom backs in future, senior Pakistani officials defend the earlier offer as a useful opportunity to test the waters'. Pakistan's privatisation com-

mission saya that it is looking into ways of making sure that the troubles surrounding last summer's share offer on domestic and International markets are not repeated. "The government will have

to manage the next stage of the offer very carefully. Lessons have been learnt from last year's experience," says Mr. Sirajuddin Cassim, President of the KSE (Karachi Stock scored an important victory, Exchange), the country's largest stock market

## Attractions

Prospective investors looking at the upcoming 26 per cent share offer are likely to find the company presenting attractive opportunities, but will not be able to overlook important difficulties.

Profits have risen considerably during the past three years. The PTC earned Rs16.024bn (\$534m) in net profits last year (1993-94), up from Rs14.14bn (\$47im) a year earlier (1992-93) and Rs10.99bn (\$366m) in encouraged by the company's that is injected in response to a official.

potential for future growth and private takeover. But many expect the total of almost 1.8m lines In operation to rise to over 3.9m by the year 2003. But there are problems

wqaiting to be resolved, too. including manning levels. One leading Karachi stock broker. many of whose clients have bought PTC shares, says: "The company is heavily overstaffed compared to similar concerns in other countries. But lay-offs would create trouhle for the new management unless the government can first settle the terms of redundancies".

The government has recently resolving a big dispute with the lahour unions of Wapda (Water And Power Development Authority), Pakistan's largest power generation and transmission company, after it delayed privatisation plans for a large power generation plant for several months.

Among other concerns, the effect of recent falls in the share price index of the Karahci Stock Exchange on the pricing of the PTC, represents another uncertainty. In the that the company could he worth at least \$10bn and that its net worth would rise in

KSE brokers are convinced that the recent falls, triggered by a withdrawal of international investors from the so-called emerging markets after the Mexican crisis, and fears over Karachi'a husiness stability in the wake of the recent law and order criais, would pull down the price tag. Mr. Nasir Bukhari, head of Karachi's Khadim Ali Shah Bukbari, a top brokerage house, says: "It's difficult to

made ' According to Mr Bukhari, the response from investors will depend on the price of the issue in comparison to other companies on the market, the effect of the troubles in Karachi on investor confidence and the company's own ability to demonstrate its capacity to increase its profits.

say how investors will respond

when the offer is finally

Despite the concerns, senior officials say privately that there is little chance for the company to make a u-turn on the privatisation road - "there may be delays, but the future is clear. The government is past, some officials have said just not equipped [on its own] to deal with the future challenges of improving technology and profits, for any public sec-1991-92. Many analysts are also future, with the confidence tor utility," says one senior

# Link between two wor

ATM is set to become one of the main transmission methods of the next century

For years, the worlds of computing and telecoms have been separated by the need to translate the digital language of computers into the analogue

signals used in telephony.

Now, however, new technologies sucb as Asynchronous Transfer Mode (ATM) hold the prospect of providing seamless high-speed digital multimedia links hetween computer networks finally removing the distinctions between data processing and telecommunications.

ATM technology promises to bring about a world in which the distinctions between local and wide area networks disappear," says American Telephone and Telegraph, the US carrier.

It will be "a world in which computers, large and small bave global connectivity to multiple information platforms as easily as making a call next door, and many times faster ... a world where distance ceases to be a consideration. and bandwidth bottlenecks are no longer an issue."

Market analysts agree. ATM is set to become one of the main transmission methods of the next century, says Ovum. the telecommunications market research specialists in a new report on ATM in carrier networks, due to be published shortly.

ATM, an advanced packetswitching technology developed by the telecommunications industry in the late 1980s. converts data into short fixedlength 'cella' which can be transmitted at high speed across 'virtual circuits' - connections which do not have to be set up in advance - to establish communications between

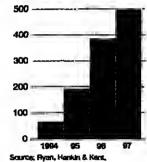
cause the size of the pack-

done entirely in hardware ware switching. This allows very high speed switching with negligible delay and constant time intervals between cells features which are crucial to real-time voice and video.

ATM technology will increase transmission speeds initially to around 155Mbps (mega blts per second) or 622Mbps, but in the long-term could pusb transmission speeds np to as much as 10Gbps (Giga bits per second). It is therefore ideal for a wide range of applications including traditional voice and data communications, imaging and video Its characteristics make it ideal for the 'bursty' mixed traffic expected on the networks of the future.

"ATM technology has tha potential to change the compnting paradigm and affect the business of corporations, governments and academic institutions around the world," argues General DataComm, a leading ATM switch vendor.

**Market forecast** Carrier-related ATM equipment (\$m)



Although there are a number of technologies, including Frame Relay, capable of delivering such additional bandwidth and performance there is a rapidly emerging consensus that ATM provides the most advantages - "of all the

switching technologies, ATM is

the one that holds the promise

telecom architecture in public private and premise networks as well as in the home," says Price Waterhouse's latest technology forecast.

Despite its background in traditional telecoms, tha first impact of ATM technology is likely to be in Lans followed by wide area networks (Wans). US companies are already installing ATM switches to belo improve the performance of their Lans and the same trend is beginning to appear in Europe despite continuing uncertainties about stability. standards and high costs.

In a recent Forrester Research survey, two-thirds of the network planners interviewed from Fortune 1000 companies said they planned on rolling out ATM within three years. Of those interested in ATM, 88 per cent said they would have either a production ATM Lan or Wan up and running by 1997.

As network traffic grows, so does the demand for virtual Lan services and for fast Lan interconnect, says Ovum many corporate users already have successful private ATM networks, and they are now pressing telcos to offer greater public access to ATM at lower

Corporate users who have solved bottleneck and bandwidth restrictions in the Lan environment are now seeking the same kind of performance - at realistic prices - across their metropolitan and wide area networks. Some telecom carriers, including AT&T and Sprint in the US, have begun to offer their customers services based on ATM technology although most network operators are still in a trial

In Europe, some telecom companies, including British Telecommunications and Telecom Finland have established broadband Lan intercounect services and the Finish PTT has installed the world's first of handling all types of traffic public service ATM network.

began live transatlantic ATM trials last December. Duncan Lewis, managing director of the group's business networks operations at the time, said: These trials are a significant step towards delivering the broadhand multimedia commonications services that will on a local, national and inter-

When implemented succe fully on a wide scale, ATM will revolutionise business structures, speeding such processes development and international trading to create a truly global marketplace.

national basis.

"However if these services are to be affective in bringing truly commercial advantages to our customers, we need to look at how their capacity to transmit information of all kinds at previously undreamed of rates will interact with existing computer and voice applications and current business methods.

Generally, however, telecom operatora have been slow to introduce ATM based services. Ovum, a staunch ATM advocate, argues that 'telcos' have been slow to respond to enduser demand for ATM because: ☐ In Europe, in particular, they are still pushing interim solutions like frame relay and switch multimegabit data service (SMDS), a connectionless packet servica, rather than offering a fully integrated

broadband network.

☐ The operators have little experience of ATM, are unsure of the best technological options, and do not know how best to integrate current user ATM networks. As Dava Schriftgiesser, AT&T's networked systems broadband networking director, notes, the traditional telecoms operators have limited experience in operating and constructing fast-packet hl-tech data networks like ATML

☐ They are unclear as to how quickly they should intro-



□ They fear that ATM virtual paths will mean significant revenue losses from corporates which will use them for voice as well as data communicationa. Most companies pay fixed monthly fees to lease circuits from telephone companies for each type of traffic. However, by consolidating data, voice and video information - and only being billed for the bandwidth they actually use - companies should be able to reduce their costs.

Nevertheless, Ovum concludes that "established telcos are beginning to realise that if they do not offer ATM services. new entrant telcos, will. There are real opportunities for dynamic telcos who respond to customer demand, and real threats to revenues for telcos who are slow to implement

Among the new entrants

are tha cable companies whose fast-growing fibre installations mean that broadband capacity is not an issue. Meanwhile, on both sides of the Atlantic, new telecom service providers are already delivering Lan interconnect services based on

## Big benefits

In the US, MFS Datanet launched America's first nationwide ATM network in 1993 and added an international leg linking up with London, Paris and Frankfurt. The new services is bringing immediate benefits to MFS Datanet's corporate customers, For example, it used to take 30 minutes to transmit the contents of an annual report from New York to London. Using the ATM link, it takes less than 40 seconds.

In Britain, Reading-based who are lining up to deliver Fibernet launched its Total ATM holds the prospect of providing seamless high-speed digital

multimedia links between computer networks - such as the syst shown above - and the world of telecommunications. For the mom however, public ATM is an embryonic market where the talcom ies call the shots, say market analysts. Pictured, left, is BT's onhilly Downs earth station in Comwail.

Area Network (TANet) service a national high-speed 622Mbps ATM-based service designed to allow its customers to send and receive data, voice, and video services throughout the UK - two weeks ago.

"These networks will allow our clients to operate their remote data, voice and video systems as if they were physically next to each other," says Charles McGregor, managing director of FiberNet. in the face of this new com-

petition Claude Haw in charge of Newbridge's fast packet networks division, notes that traditional service providers are adopting two different approaches.
"Some are committing

resources to trying out high-speed ATM, offering customers bandwidth to play with, running applications they have developed themselves. They might not make any profit from them in the short term. but they will have learned a lot

about how they work ... the second approach focuses specifically on the services themselves. Video-on-demand, multimedia, distance learning and so forth."

For equipment vendors, ATM for the network operators represents a huge, largelyuntapped market for their innovative new products, although they may have to wait a while, In a recent report, Joseph Bellace and Michael Beardsley of Merrill Lynch estimated that between 60 and 80 per cent of ATM switches will be installed in customers' premises for the next several years.

'ATM switch vendors. including Newbridga Networks, the ATM Wan market leader, General DataComm, Cisco and StrataCom are wellpositioned to benefit from significant ATM market growth forecasted for wida area enterprise ATM networks," said the Merrill Lynch study.

■ Optical fibres: Ways to send more messages down the line – report by Michael Kenward

# Light relief for today's long distance telephone links

Advanced telecoms technology is abandoning electronics and moving to light as a way of carrying more information through the phone system

Optical fibres - tiny strands of very pure glass - and the digital revolution, have changed the world of telecommunications in just 20 years. Digital techniques turn information into the computer's language of 'Is' and '0s'. Fibres carry those oessages as tiny pulses

At first the saviour of telephony, these technologies have opened the doors to a wide range of new communication systems.

Images and video require just too much bandwidth for cooventional telephone wires. Higher bandwidth – a measure of the information carrying capacity of a telecommunications system - means faster

But without fibres, and their almost unlimited bandwidth, it is hard to see how anyone could think of delivering televisioo to the bome, or out in the other direction, through a fixed

lf optical fibres bad not arrived when they did, the elobal internet could not have reached its current size. The promised multimedia revolution would also be a distant

easier by an important development that has made a rapid inpact on long-distance communications - the fibre amplifier. Optical fibres carry their signal for hundreds of kilometres before it becomes too blurred or weak to be understandable. Long-distance cables, electrical or optical, contain repeaters, spaced at regular intervals, can amplify the signal bafore it becomes lost in the background noise.

As its name suggests, the optical amplifier works by regenerating the optical signal itself, without any electronic intermediary.

ampton group first 'doped

UK's telecommunications traf- five years of this academic dis- nique on a commercial system, fic and 65 per cent of interna covery, fibre amplifiers entered on Europe's first submarine Optical transmission is made

inpact on land-based links.

Before the advent of the fibre amplifier, the only way to regenerate a signal was to take the light pulses, turn them into electronic signals, put these through amplifiers, turn the electronic message back into light, and then to return that to the optical cable.

In 1986, a team working with Professor David Payne at the University of Sonthampton showed that they could turn optical fibres into amplifiers by incorporating a trace of additive to the glass. The Southfibres with the chamical. erbium. When light energy. usually from solid-state lasers similar to those used in CD players, enters doped fibre, the light "excites" aome of the erbium atoms. Light travelling down the fibre extracts some of this energy from these atoms, dream. gathering strength in the pro-cess. Such was the demand for this technology that within

water links. Even before that, they had begun to make on

> One of the first projects to include fibre amplifiers in an optical cable was in Thailand in 1993, when STC Submarine Cables out these amplifiers at the ends of telecommunications links that ran down the

Earlier this year, the com-pany installed TATI2, the first transatlantic link incorporating optical amplifiers. Along with TAT13, to be installed next year, this network could, using the latest techniques in signal management, carry more than a million telephone conversations at the same time. The last copper cable across the Atlantic carried just 4,200 conversations.

## Higher capacity

Demand for more communications capacity does not necessarily mean adding more optical cables to the global network. New ways of combining signals and squeezing them into the same fibre link can double the capacity of a particular link.

Cables conventionally operate at 2.5 gigabits a second (GB/s) - that is, 2,500 million blts a second. In one experiment last year, a group at AT&T Bell Laboratories in the US used a technique known as wavelength division multiplexing to combine sixteen 2.5GB/s channels on a 1,400 kilometre laboratory link.

This summer. Alcatel con-

cable with fibre amplifiers, the £80m Rioja link between Santander in Spain and Cornwall

During the experiment, the cable, designed initially to operate at 2.5 gigabits/second, worked at 10 gigabits/ second. By combining the cable's four optical links, the total transmission distance was 3,700 kilo-

The same experiment also showed that it is possible to remove one traffic flow from the middle of a link and to replace it with a completely different stream of information. Undersea links have traditionally been point-to-point systems. The Alcatel experiment showed that it is possible to re-route traffic in a fibre link, as demand changes, or if ona path fails. Thus, optical fibres themselves because a part of the network manage-

ment system. While fibre amplifiers first made their impact in long- distance communications, these amplifiers could also have a significant impact on communications over much shorter

Dr Alan Steventon, of BT Laboratorles at Martlesham Heath in Suffolk, believes that recent progress with new types of fibre amplifiers could help solve one of the challenges facing telecommunications of how to bring the information superhighway "to everyday custom-

With today's computer telephone links limited to working at 28,800 bits per second - or

Continued on page 30

■ ISDN: Integrated Services Digital Networks gain ground – report by Bill Johnstone

ISDN is considered the classic vehicle for mixing video, voice, graphics, colour and text

ISDN (Integrated Services Digital Network) is hailed as one of the technologies crucial to the evolution of any information superhighway. Digital mixtures of text audio, video and graphics are the attractive cocktails offered by this medium providing an effective standard for multimedia transmission

While Europe boasts an initiative which has embraced it and evolved a policy designed to ensure that the Community exploits it, in certain quarters the technology is still anxiously awaiting acceptance. Its history is peppered with indecision and conflict, as much a monument to its political as to its technical profile. It has taken nearly two decades for it to creep from drawing board to council chamber and although considered the natural successor to a sluggish analogue system, ldeological

agreement was to prove as dif-

ficult as any technical one. At the beginning of the 1980s the CCITT (the International Telephone and Telegraph Consultative Committee of the International Telecommunica tions Union) began making significant strides towards this digital goal. The new infrastructure, it contended, would support a wide and revolutionary range of voice and non-

voice applications. By the end of the decade the same political commitment was gaining momentum in the European Commission. Europe was now alert amidst talk of a Japanese plan to bulld a

early in the next millennium and rumour that the US was preparing to react to the

So, after nearly 20 years the technology and the politics acquired consensus. The initiative of the European Commission inspired a 'Memorandum of Understanding' to be drawn up at the end of the 1980s and signed by 26 telecom operators in 20 countries. They agreed to implement, by the end of 1993, the technical standards (termed Euro-ISDN) set for the continent by the European **Telecommunications Standards** 

Institute. Digital ISDN voice, data and video signals transmitted at 64,000 bits/second are called bearer or B-channels. An additional channel (either 64 or 16kbits/second) is used to control the signals, called a directing channel or D-channel

Using these building blocks, two levels of service are offered by most ISDN providers, BT and Mercury being the two primary carriers in the UK. They are Basic Rate Access, comprised of two bearer channels plus one directing channel (2B+D), allowing two simultaneous services using a pair of wires, while Primary Rate Access with (30B+D) channels uses fibre or microwave and has capacity for 30.

According to Dataquest, at the end of 1994 there were 5m B-channels spread over the world's major markets - 69 per cent in western Europe; 16 per cent in Japan; and 15 per cent

The latest European figures show that the growth has been sustained. By the end of June 1995 there were around 4.6 milllon B-channels installed in Europe ~ 51 per cent in Germany, 21per cent in France, 15 per cent in the UK. 4 per cent in Switzerland and 9 per cent in the remainder. Those faltering steps which

took place with the commitment in 1990 may soon become large confident strides. The European memorandum and the political endorsement given to it particularly by the French, the British and the Germans has set the stage, it is hoped, for worldwide adoption of the technology. Now some 30 countries, including the middle east and parts of eastern Europe are involved, two of the latest signatories being Hungary and Israel.

According to the European vision, ISDN will provide advanced telephony (call waiting, re-routing, caller identificationi, high speed communication between computers and a host of other advanced services. Among these would be fax transmission 20 times faster than normal, teletext 100 times and videotex (text with graphics or photographs) 30 times faster.

Cost savings

Retail, medicine, travel, banking and security are but a few of the sectors which are exploiting ISDN, transforming their businesses significantly with demonstrable savings and improved efficiency.

Por example, at NatWest Securities, at midnight every weekday, closing prices are transferred from the main database in Paris to Edinhurgh. The equivalent of 60 pages of A4 data are sent. With ISDN the time for transferring that volume has dropped from 23 minutes to 25 seconds.

In retailing a lattice of ISDN lines connects outlets to a central bub. This wagonwheel effect allows elactronic fund transfer, video survelllance. point of sale and a range of

activities linked to a control

Laura Ashley, the fashion and home furnishings retailer. for example, uses ISDN at one level to enhance the speed of credit card validation and at another to monitor trading.

ing the technology to provide live interactive on-line information and videos whare dream vacations can be briefly. albeit vicariously, sampled. The petrol forecourt is

another sector courting the new technology. Petrol tank levels, car washes and instant price changes are all features. of the ISDN system, again connecting the satellite outlets to a central hub.

Clearly, the various levels of sophistication are reflected in the range of prices. A business with basic service would. expect to pay about £400 for connaction, from £200 for a computer card (resident in the office computer), a further £100for the computer software and rental of about £84 a quarter plus telephone call charges. ...

Those price differences. across Europe vividly reflect approaches to marketing. For instance connection charges in France or Germany can be an eighth that of the UK (between £50-80), but the respective calls charges are nearly four times that of Britain.

Whether ISDN will ever realise its full promise or potential has yet to be determined. The European Commission has made its commitment to drive the technology. It believes that ISDN will become a vital ingredient in any competitive European environment while bringing untold social benefits into the home of the ordinary subscriber. It is hoped that this commit-

ment and that of Europe's tele-

# Cautious views on Asian markets

Continued from previous page:

make a strategic sala when it offers 26 per ceot to a foreign telecoms giant early next year. In spite of Asia's exceptional growth expectations, especially in cellular markets, analysts are advising caution, particu-

larly in selecting stocks "I think that the big thing that will affect investor perceptions in the next few years will be the fact that a number of Asian countries - Thailand and Malaysia being the two classic examples - are going to slow down because of the success of their telecoms policies." says Mr Andrew Harrington of

Salomon Brothers. "In Malaysia for instance. you now have a higher pene-

tration than you might expect, given the level of economic growth, which means that industry growth is slowing."he

Less than one-in-four new overall growth rate is declin-

ing.
"Oo the other hand," saya Mr Harrington, "markets which historically haven't had high growth rates in telecoms are set to accelerate very sub-

subscribers on the fixed-wire side are business subscribers which means that average revenues per line are declining which in turn means that the

stantially." India, China and the Philippines are among these, he

adds. Whether Asia's phenome-

nal telecoms growth of the past

5 years is sustainable across all markets is a question upon which analysts cannot agree.

Some are taking an apocalyptic view that the bubble must burst at some point in the future, while others maintain that Asia's economic health is allowing the region to attract finance and foreign investment at the same time as pushing ahead with liberalisation. In this last respect. Asla is an entirely new phenomenon in the history of developing tele-come markets, they say.

What all industry observers

do agree on is thet the region's

governments are pushing through liberalisation schemes

at a rate far quicker than any

where else and in ways that

are as different as the individ-

ual countries themselves. China is experimenting with revenue-sharing options that circumvent its strict rules oo non-foreign operation of telecoms networks; Indooesia ls offering attractive limited-life concessions to construct lines in partnership with the domestic carrier; and India is taking an very unorthodox route by inviting new private operators to compete head on with the state-run DOT (Department of

The Philippines is offering a unlque 'carrot and stick' approach, enticing new entrants with the promise of iucrative cellular and international telephony liceoces oo the condition that they build local telephony lines.

munications).

■ ISDN applications: The 'small office, home office' (SoHo) sector shows promise, reports Julia King he market hots up

US companies show new interest in UK expertise

ISDN is one of those technologies whose time has always been just around the corner. On paper there appears little to beat it: digital lines offer the user high accuracy. rapid coonection and dlal-up pay-as-you-use type connec-

The lines are capable of supporting both telephony and data communication. They offer an alternative to users whose only other option before now has been to suffer the inadequacies of pumping dsta

down an analogue line with variable results - or to pay the price for installing a leased line: a solution that takes itself immedistely out of court for all but the biggest companies.

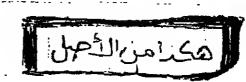
This latter reason has led many to affirm that the largest market for ISDN lies in basic rate with the SoHo (Small Office, Home Office) type of organisation or user. As yet, this market remains predominantly untapped, notably in the UK, where pricing is puni-tiva. Figures published by Telecomeuropa show that the UK has approximately three basic rate lines to every primary rate line, whereas the ratio in Germany is some 20 to 1. The figures would appear to support the theory that the UK market for hasic rate ISDN is grossly suppressed.

There is now considerable activity within the market. as evidenced by the spate of acquistioos of companies within it. In the last few months in the UK, Sonix has been acquired by 3Com, Scorpion Logic has been acquired by remote connectivity specialist, Xylogics (which is oow itself in the process of being acquired by Bay Networks), Securicor 3net has purchased WISDM and has also acquired Pacific Rim company, Network Dynamics and Securicor Telesciences of New Jersey, while

Spider Systems has been acquired by Shiva Corporation. For the main part, these acquisitions are of UK compa nies by US companies. This indicates the level of expertise that has been built up within the UK in ISDN and the desire of US companies to make inroads into a market that they obviously believe to have conaiderabla potential. On the other hand, the UK's Securicor 3net is spreading ont into North America and the Pacific

Rim through its acquisitions. Despite the promise of the market, operators still see the oeed for promotional activity

Continued on page 30



# Visit the Seven Isles of Stet at Telecom Geneva '95. The world of telecoms will never look quite the same again.



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TELECOMMUNICATIONS
IN ITALY AND THE WORLD

The move from analogue to digital technology heralds a range of new services

The transition in telecommunications industry from analogue to digital technology might well change the way we communicate with one another. It will almost certainly transform the telecommunications carriers who offer

us services Some of the most informed speculation about how this future might look has coma from Nicholas Negroponte, the US academic who is also a columnist in the influential US magazine Wired and the author of Being Digital, published in the UK earlier this

Negroponte argues that completely new media and telecommunications services will result from the digital combination of voice, video and data, to the point where differentiating between the previously separate Industry sectors

would be irrelevant. In addition, digital technology would allow information to be more selactively screened and sorted to fit a user's individual requirement. The future then, according to Negroponte. will both involve blurring axisting differences between services and increasing their

differentiation. He gives the example of how viewers would no longer need just to watch television to receive a weather report. Instead, a customer who happened to be especially interested in the weather could receive a computer model of local conditions accompanied hy a voice report, a printed-out report narrated by a favourite

Carriers are already finding they can only create innovative new digital services through alliances with compa-nies from other sectors such as cable television operators, computer companies. TV networks and film studios.

The services that will arise from these new partnerships are not yet defined, although video-on-demand is the most quoted example of what is possible. It need not be the most popular - a Time Warner trial over one of its cable television networks earlier this year found calling up any one of a choice of exciting movie releases was less exciting for customers than using tha new interactive service to ordar stamps from the post office.

Equally mundane are some of the existing digital services offered by telecom carriars. Digital technology, for example, clears interference on phone calls although, interestingly, users of newer digital cellular phones complain about their voice quality compared to older, analogue cellular phones. They say older, more familiar analogue phones sound more "real" and that a digital voice sounds disembod-

Digital communications also allow carriers to deliver customers' communications faster and in a more flexible way. The most obvious example is the private circuits supplied to corporate customers for carrying their internal data communications. Digital circuits can be set up at shorter notice and carry higher speed services than their analogue predeces-

Telecommunications carriers must find new partners if they are to be involved in this new synthesis. The first serious

such alliance was the aborted 1993 takeover of the largest US cable operator Tele-Communications Inc (TCI) by Bell Atlantic, one of the seven regional Bell operating companies who run most of the local telephone

services in the US. In Being Digital, Negroponte described this alliance as being about as interesting as two plumbing firms joining forces since they are both in the bustness of transporting information to end-users, rather than creating the information itself.

More interesting, he suggested, were two rival partnerships between, on the one hand, Disney and three Bell

Metaphors to describe the future of telecoms include 'superhighway' and 'digital supermarket'

companies: Ameritech, Bell-South, SBC and the largest independent carrier GTE: and on the other. Hollywood agency Creative Artists Agancy (CAA), headed by Michael Ovitz, allled with three other Bells: Bell Atlantic, Nynex and Pactel.

The latter alliance, known as Tele-TV, is thought to be re-assessing its strategy in the wake of Ovitz's departure to head

More such deals are likely to develop. Negroponte says. pointing to the recent mooted hid hy a software company and broadcaster for a TV network: "Look, Microsoft and Turner are already mumhling about buying CBS. Most of this is about getting into the homa.

Telecommunications carriers all over the world are looking at similar partnerships, although none have forged equity links as in the US. BT, for instance, has agreements for its commercial video-on-demand trial, which started in July, with a number of suppliers, including film studios. television companies and retailers.

While telecommunication carriers have access to the home via their networks, what they lack is the material that will create value out of having a digital link to customers. The conventional analysis is that the cost of transport - the telecommunications carrier's core ousiness - will become nominal over the next few years. Does this mean the only option for telecommunications carriers is to hire Steven Spielberg

as CEO? "The surplus of bandwidth means you cannot just ship bits. You need to add value to them. Whether that means you make them from scratch is another matter. Steve Splelberg would be as good at running a telecom company as Ray Smith (chief executive officer of Bell Atlantic) would be at making a movie. Let's not confuse what we each do so

well," says Negroponte. The lack of clarity about the future shape of the telecommu-nications industry has given strength to the "superhighway" metaphor of a network transporting information between users at high speed. The metaphor implies the value of digital technology is in the speed at which information is transported, not in the way digitisation makes it possihle to merge and enhance the information.



Nicholas Negroponte, the US academic: new services will emerge, ing information to be more selectively ecreened and sorted

recently put forward by John Sculley, the former head of Apple. He talked about a digital "supermarket" where users can browse and choose between various products. Negroponte finds this a partly more satisfactory image than tal living."

An alternative metaphor was the superhighway - "it covers the transactional and commercial side, but would hardly reach the important aspects of education and entertainment". Negroponte himself will not be drawn into any helpful metaphors: "It really is about digi-

## The world's top 25 international telecommunications carriers

Figures for each year show outgoing or carrier-billed

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ark	Company	Country	1994	1993	Change 93-94
	TATA	United States	7947	7129	11.5 per cent
	Deutsche				
	Telekom	Germany	5147	4680	10.0 per cent
	MCI	United States	3517	2839	23.9 per cent
	France Télêkom	France ·	2603	2576	1.0 per cent
	BT (2)	United Kingdom	2489	2310	7.7 per cent
	Telecom Italia (b)	) Italy	1708	1610	6.1 per cent
	Swiss PTT	Switzerland	1649	1572	4.9 per cent -
	Stentor (c)	Canada	n.a.	1430	n.a.
	Hong Kong (a,d)	Hong Kong	1578	1377	14.6 per cent
0	Sprint	United States	1471	1175	25.2 per cent
1	KPN	Netherlands	1346	1238	8.7 per cent
2	China MPT (d)	China	1150	895	28.5 per cent
3	Belgacom	Belgkum	1049	979	7.2 per ceat
4	Mercury (a)	United Kingdom	1018	820	24.1 per cent
5	KDD (a)	Japan	996	952	4.6 per cent
 6	Telefónica.	Spain	948	847	11.9 per cent
7	Téléglobe	Canada	861	761 .	13.1 per cent
8	Austrian PTT	Austria	819	7 <del>6</del> 7	6.8 per cent
9	Telmex	Mexico	721	625	15.4 per cent
0	Telstra	Australia	710	640	10.9 per cent
1	Telia (e)	Sweden .	697	685	1.8 per cent
2	Singapore				
	Telecom (a,f)	Singapore	586	. 480	22.1 per cent .
3	Worldcom (g)	United States	555	TI.2.	n.a.
4	DGT Talwan	Talwan	498	441	12.9 per cent
5	TeleDanmark	Demmark.	488	452	8.0 per cent

(a) Data for the fiscal year, ending Merch 31,1995. HKT and Mercury are majority-owned by Cable & Wireless (UK).
(b) Combined totals for Irital and Italcabla. Prior to 1994, Irital (former) ASST) handled intra-continental traffic only, and Itacable carried overse

(c) Stentor was formerly Telecom Canada; Stentor traffic is for US only, of which approximately 70 per cent is originated by Bell Canada, (d) Includes Hong Kong-China traffic

Singapore Telecom data include traffic to Malaysia (except local

(g) Worldcom figure is-combined traffic from IDB, Wittel and LDDS. Source: TeleGeography, Washington; telephone +1 (202) 467-0017.



Digital technology clears interference on phone calls and allows to

# Advanced optic systems

Continued from page 28

perhaps 250,000 h/s with the right hardware and software is completely unrealistic to think of sending images to compete with electronic games over ordinary telephone lines. The carrying capacity of the communications has to increase by a factor of 10 or

While optical fibres clearly hold out the hope of achieving this communications rate. the cost of cabling Britain, using current technology could approach £15,000m, says Dr

Such a hill might not be excessive if solid earnings were in sight, in the shape of paidfor cable TV. But current legislation excludes BT from this

With so many doubts hanging over the revenue that other services might generate, BT runs an R&D programme that aims to bring down the cost of

A recent development by the opto-electronics group at BT Laboratories (BTL), near lpswich in Suffolk, could cut the cost of hringing fibre a step

closer to the home. Here, conventional semiconductor lasers will play an important part. Fibres are so small that it is difficult to line them up with the output from a tiny laser - and this complex alignment procedure puts up the cost of key components in



Optic fibres for te science park, near Nice, in southern France

estimates that hy combining the design and fabrication of ers with tha micro-engineering techniques of semiconductor electronics, the new procedure could cut the price of this particular link in the chain from £100 to £10.

Such components could make it possible to build communications networks in which a single optical fibre feeds 3,000 homes. Fibre amplifiers are important here, too.

Split an optical signal many times and - without the assis-tance of an amplifier - it would quickly hecome too eak to deliver its message to its destinations.

The fibre amplifier is the first step towards systems where optical processing domi-nates, diminishing the role of the electronic circuitry that now performs most of the hard

systems. BT is one of a number of organisations trying to cram as much work as possible in to the optical parts of the telecom BTL's latest achievement

was to read the addressing information on data sent down a fibre: because so much information travels down a single optical link, each 'packet' of data carries an address that describes where it has come from and where it has to go.

It usually requires an electronic 'ronter' to read this address, but BT has oow succeeded in reading the address optically, rather than electroni-

This greatly simplifies the design of the router," com-ments David Cotter of BT Laboratories, it also makes it pos sible to build systems that are 100 times faster than existing



# The future of global satellite commication does not wear monograms shirt

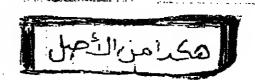
Today, there are 5.7 billion people on plonet Eorth who will never step oboord o supersonic jet. Who will

never feel the plush fabric of a Sovila Row suit. And who will never, ever be oble to offord telecommunications of the type envisioned by

most sotellite-bosed schemes.

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# **Operators** may face extinction

Phone operators or 'agents'may be facing extinction just as rooms full of typists, key-punch and data-entry clerks have become a thing of the past

The integration of computers with telephony - CTI - is making great strides, but with it, jobs are either disappearing or changing.

In the US, the population of agents is already in decline, according to Ian Hardman, of Brite Voice Systems Europe. who also sits on the steering committee of the Call Centre Management Association, the CTI trade association in the

The larger implication is that no matter how much European culture resists the change, ultimately tha machine will replace live agents in those areas where it can. If you look at almost any transaction process, you'll find someone in the US who has automated it," he says.

CTI is usually found at the heart of an enterprise. It often comes about because of a "business process re-engineering effort" that has concentrated on cost-cutting and efficiency.

When IT gurus talk wisely ahout "moving IT closer to husiness", the CTI community must congratulate itself: It has always been closely associated with the business needs of its users, such as the mail order giants taking thousands of orders over the telephone daily.

Nevertheless, CTI suppliers



ter communications in the financial services sector: Simone Griffen, a Nationwide mortgage adviser, talks to and sees Hazel Cook at the Nationwide call centre - via a PC Videophone from British Telecom

entry of such computer glants as Novell and Microsoft into their hitherto small niche may well transform CTI prospects, according to a recent report, Computer Telephone Integration: the business opportunity.

are far from complacent. The published by consultants write for," adds Simon Glass-Ovum. Analysis predict mas- man, co-author of the Ovum sive CTI growth in Europe, from today's levels of US\$539m (£336.8m) to US\$3,3bn in 2000. "Independent software vendors wbo write CTI applications will now have a mass market to

report. "CTI will be easier to cost-justify, because shrinkwrapped applications will bring down costs."

CTI may well become more accessible and affordable, and departmental applications. Microsoft's promise to integrate voice and telephone applications into the Windows '95 environment may evan have an impact on the domestic market.

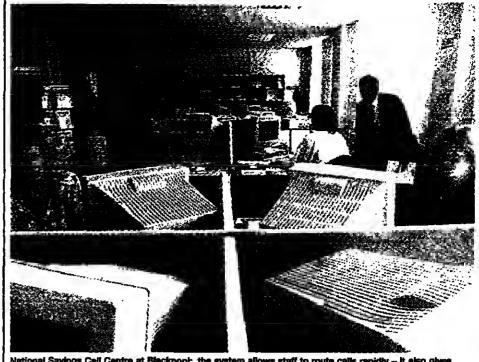
US suppliers have confirmed that a great number of the the Pentium-based computers currently being sold with Windows 95 are for homa use. Microsoft are encouraging developers to write CTI applications using its Applications Programming Interface, APL which is a part of Windows 95.

Financial institutions, ntilities, retail and travel organisations have up to now been the largest users of CTI applications. In the simplest form, they are used to route calls in customer service departments. ACD (Automatic Call Distribution) systems have been in use for 30 or more years to manage high volumes of incoming calls and route them to "agents".

CTI systems go one step further by linking to a database and "screen popping" the relevant information once the agent enters the caller's details. Calling Line Identification (CLI, provided by BT in the UK from November 1994) enables CTI systems to display details even before the agent answers.

Interactive Volce Response systems (IVR) now jeopardise the jobs of human operators whose only function is often to retail verbally the information shown on the scraen. IVR systems cut out the human, so that the caller can talk directly to the database.

IVR is often PC-based or connected, and is most commonly used to deliver or accept information, such as placing an order, or delivering accountbalance information.



National Savings Call Centre at Blackpook: the system allows staff to route calls rapidly - It also gives access to on-screen tables for rates of interest, allowing staff to swiftly work out complex calculations

CASE STUDY National Savings Call Centre

# Treasury at cutting edge

For the National Savings, the UK Treasury savings body best known for its Premium Bonds, CTI offered a ronte towards its aim of 5 per cent efficiency improvements each year.

In spite of stiff competition in the savings market, the Treasury still expects National Savines to raise £2.5bn annually. To do this it has to sell between £8bn and £9bn worth of savings products annually.

"The savings market is highly competitive, with a rapid increase in the use of technology," says Peter Wassall, marketing services nanager at National Savings. Ten other investment products are also handled at different locations, including Blackpool, Durham, Glasgow and London.

"Sales of Premium Bonds have shot up since the introduction of the £1m prize, and, surprisingly, since the National Lottery started," says Mr Wassall. "It's a product thet has been going since 1956, but we bave to move with the times. We're planning to introduce telesales to existing customers in 1996, and we have to be prepared. Contrary to some people's image of us, this is no dinosaur

organisation, and this is one of the first CTI applications in the Civil Service."

In 1993 an efficiency study recommended an Antomatic Call Distribution (ACD) system, and National Savings installed STS' Supercall 2000. The next step was an enquiry management system (EMS) to be installed at National Savines Blackpool to serve the Sales Information Unit. The specification for the pilot project centred on the products which generate the most enquiries: Premium Bonds, Income Bonds and

Investment Accounts. For this, STS joined forces with Envoy, an independent supplier of integrated call centre applications, and won the contract with an enquiry system based on the Oracle database. The resulting system not only allows allows staff to ronte the call correctly, but gives them instant access to on-screen tables of return for various rates of interest, allowing them to do complex calculations and deliver accurate information in

sponse to customer queries. Envoy developed the EMS system using Gupta's tools for client/server development, and Brock's sales and marketing package, both adapted for CTI applications. The system uses a PC-based local area network (LAN), with a server dedicated to the enquiry system, linked to the Supercall 2000 ACD via Envoy's TeleLink CTI software. It includes postcode look-up and access to the rontines for on-screen

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mainframe in Durham. EMS can accommodate 24 operators, with plenty of room for expansion. Eventually the system will extend to include off-site independent financial advisers. Another plan is to use Calling Line Identification (CLI) to bring up a customer's previous history automatically.

valuation of Savings

Certificates, based on the

CTI has brought a great culture change, but it is also providing the basis for a change of image for National Savings, currently gearing up for an advertising campaign using Freephone numbers and emphasising the easy availability of products by telephone.

"Not only have National Sayings moved into the 20th century, we've leapfrogged into the 21st," says Mr Wassall.

Claire Gooding

■ Call centres: Boosting business efficiency. Report by Claire Gooding

# New ways to handle customer services

Advanced call centres are now seen as a way of increasing competitive edge

Not long ago, a query to many large service organisations regarding charges for gas, telephone or bank services meant hours of hanging on "for the right person" - an often fruitless, frustrating and expensive exercise. Today, however, a call to question service charges should hring an instant response, with the history of your account and your last contact displayed to an agent capable of dealing with a vari-

ety of topics. Voice response systems take one further step in that they can put the customer in direct contact with the database. Such systems accept volce touch-tone input, and deliver voice-processed information in return. Recent advances in the ability to interpret and simnlate speech open up new possihilities for human-computer interaction, such as British Telecom's Laureate computer-generated human voice system, which enables PCs to "talk hack" electronic mail messages or precis of text.

An Improvement in customer services is one of the direct benefits of recent advances in computer talephony integration (CTI) and voice technology. Organisations including banks, retailers, and utilities bave all adopted tha "call centre" as an efficient way of handling customer services.

They are efficient for the customer, but also for the organisation to the degree that they are seen as a vital part of being competitive. Many companies introduce CTI in an effort to cut staffing costs as a result of a business process reengineering (BPR) initiative.

CTI systems have a great impact on staff, often cutting staff numbers and demanding that those remaining become multi-skilled. However, as the following three very different examples show, they also open up channels for customers and



The Arab National Bank system works in both English and Arabic, and

provide the potential to improve the relationship

## Bank's initiative

The Arab National Bank has grown from the eighth to tha fourth largest bank in Saudi Arabia in the last three years, largely because of a growing range of products. Thesa in turn have produced a rapid increase in queries and problem calls.

The bank's managing director and chief executive. Elie El Hadj, saw the potential of improving the Customer Services Centre, by integrating various different computers and systems in use in the CSC. His idea was to build on the bank's call centre technology, extending its existing call logging facilities to support call management and reporting, so that staff would not have to log on and off different systems to respond to queries. None of the "shrink-

wrapped" call-tracking PCbased products suited the bank and it approached Henleybased AIT, a specialist in call management for banks and building accieties. AIT was able to build a working system in three months, using existing elements of the Bank's CSC. pulled together beneath easy-to

use graphical screen informa

The new customer service system is the first of its sort in Sandi Arabia. Agents have access to a "customer folder" for each caller, providing information on all current products and services and a history of all requests, queries or complaints. The system works in both English and Arabic, and has inhuilt "workflow" facilities to track each call through

A very different sort of "customer service" comes from a voice-processing system developed for the police. Members of the public in the UK, including postmen and milkmen, are increasingly ancouraged to take part in "nelghbourbood watch" and community policing schemes. However, dealing with routine enquiries and reports takes up valuable time. evan for avents that do not require police presence.

## Police calls

In an effort to cut police administration and paperwork, Kingston Communications (the UK's only municipally-owned telecoms supplier) developed a system for mambers of the public to voluntaer information over the phone to individ

Continued on page 23



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omers of the world. By 1998. For as little as ine tenth the cost of competing strategies.

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# New option for 'Net surfers

Microsoft's strategic move could affect the on-line service community

Software giant Microsoft Corporation's recently-launched computer on-line information service, the Microsoft Network (MSN1 is more than just another entrant into that highly-competitive sector.

It is also part of a vital strategy by the company to position itself as the key provider of services and software to access the worldwide internet computer network, its highly popular World Wlde Web service. electronic mail functions and

MSN, combined with Internet access software which Microsoft is making available to users of its new Windows 95 operating system, now provides a way for users to access the Internet's electronic mail functions, the World Wide Web and other prominent Internet

Microsoft is cleverly using MSN and what it calls the Windows 95 'internet Explorer' to make all kinds of Internet services directly from within Windows 95 and MSN, so that they appear to users to operate in the same way as Windows 95

While many other on-line service providers offer access to the internet - and even the World Wide Web - Microsoft is boping that this integration with Windows 95, and a number of key tools for belping users find their way around the internet, will make a significant difference

"You can find a lot of great stuff on the internet, but making use of it on your own cult," explains Bill Miller, MSN director of marketing. Windows 95 users, "out on the Internet, expect it to operate the same way that the Microsoft Network works - and, in

fact, it does," he says According to Miller, tools for helping users find and use the information they want on the Internet - and elsewhere in the on-line world - are in heavy demand. "When you consider that more than 140 companies

**VEBA AG.** 



Bill Gates, president of Microsoft, announcing the availability of MSN, the Microsoft Network, a global on-line service - integrated with the Internet - which enables customers to comm

are participating in building unique content on the Micro-soft network, and add that to the thousands of offerings that are available on the internet, it can get pretty confusing to find things that make sense or are valuable to you," be says. That is why Microsoft Is offering what it calls 'Guide Books' for MSN-users to belp them quickly track down valuable information on both MSN and

the internet. Access providers

The impact of all this on sections of the on-line service community could be quite dramatic, if Microsoft succeeds, At the very least, Microsoft could force many small Internet access providers - many of which simply provide local to use the World Wide Web

BZW advised Cable and Wireless plc

on its European strategic alliance with

This advertisement appears as a matter of record only

telephone access to the inter-net for a monthly or annual fee - to look for ways to keep their customers

Many internet users will probably examine the option of accessing the internet and the World Wide Web through the Mlcrosoft Network as an attractive alternative to their current arrangements.

This could prove particularly attractive for users who travel widely. Microsoft has made MSN a global network from the day of its launch in August, providing local telephone access from most of the leading cities in the western world, This means that users will not only be able to access their electronic mail without incurring long-distance phone charges, but will also be able

from anywhere they bappen to be on the same basis. Users of the popular Compu-

Serve information service can already do this, although they must use CompuServe's own 'information manager" software if they are to receive best results from the product when using Windows 95.

Microsoft is clearly boping that the idea of being able to learn Windows 95 and then use those skills to navigate both MSN and the internet (without baving to learn a new application such as Compuserves Wincim access software) will give it a competitive edge.

To meet rising demand on tha Internet, telecoms carriers are expanding and npgrading their networks: see report.

■ Keeping the system running: Focus on a 'mission-critical' activity. Report by John Williamson-

# Network 'firefighters' win starring role

When networks are operating at speeds of billions of bits per second, fault detection and remedial action have to be fast

Telecommunications operators used to consider the manage ment of their networks largely as a fire-fighting sctivity: when the network went down, the ldea was to find the fault and

fix it as quickly as possible.

Today, telecom companies look at management in a completely different light. As well as keeping traffic flowing, tasks as diverse as the provision of new capacity, fraud prevention, the creation of advanced services, billing and reconciliation, and customer care are all grouped beneath the network management umbrella.

Many operators now see network management as a key strategic capability, and the introduction of improved operational support systems (OSSs) is considered vital to their future survival.

"Network management is an absolutely mission-critical activity," agrees Tom White. general manager of the Scotland-based Telecoms Systems Division of Hewlett Packard, one of the world's leading OSS vendors.

Network management's rise to prominence in the telephone company universe is due to a number of factors,

One of the most important is the privatisation of former national monopoly telecommunications operators in various parts of the world, and the liberalisation of markets which

Big operators have billions of dollars tied up in legacy systems

usually accompanies this change of ownership.

Privatisation makes telephone company management board answerable to sharebolders. sometimes for the first pressure to reduce operating

The Canadian-beadquartered lelecommunications vendor. Nortel, bas calculated that the maintenance overhead for the operators of public networks is equivalent to around 20 per cent of revenues.

The need to shrink overbeads is particularly acute in countries where incumbent operators face competition for business from new. lower-cost market entrants. Many of the latter have parents in the highly competitive markets of North America where lean and mean is the order of the day: with an average annual maintenance spend of \$40 per access line, US telecom companies or 'telcos' -are nearly twice as cost-effective as operators in most other parts of the world.

In a deregulated environment, too, operators have to differentlate their services from the rest of the field, increase their service quality levels and respond more rapidly to changes in demand.
"Deregulation levels the

playing field," says John Holdsworth, business unit manager for Network and Service Man-

igement Systems at Newbridge Networks. "Telcos can no longer afford to be cavalier about the actual quality of service they offer. Network and service management allows the telco to compete, survive and

advanced networks, with a fibre optic system running along the Nat

A second consideration is that the service repertoire now being offered by operators is much more varied than previ-

"As telecoms becomes more competitive around the world, the kinds of services that are provided to end-user customers become much more varied," notes James Herbert, vice president of corporate affairs at US billing coocern Moscom.

"There are many more options, and because of that the billing requirements become unique. Wa percelve that traditional OSS and billing solutions for cable television and telephone service, for example, are not compatible with one another although there is a desire for both types of operator to enter into the other's market."

A third explanation for the newly-elevated status of network management and OSS is related to tha increased complexity of networks. This arises from the advanced nature of the technology being deployed, the ability of operators to construct networks with different elements sourced from different vendors, and the move away from managing individual pieces of equipment in isolation to the monitoring and control of both the network as a whole and the services that

the network provides. in short, it is no longer possible to manage a modern telecoms network on a manual

Responding to market de-regulation, service proliferation and additional network complexity, the world's leading telecom operators are making big investments to upgrade tbeir network management and related information technology (IT) systems.

According to IBM's Europe, Middle East and Africa Media and Telecoms Solutions Unit. worldwide IT spend for telecoms in 1994 was in the range of \$30bn and the 1999 figure will be in the region of \$50bn. A common goal of operators is to replace their existing 'legacy' network management

systems, which control individ-

ual network components, with

new open systems providing

integrated network-wide con-

Round-the-clock control centre of Energie: the new telecom company in the UK has one of the world's mo

trol. Unfortunately, this is not likely to be a painless or particularly rapid process. In the first place, large operators have billions of dollars tied up in legacy systems and

cannot afford to just write off their investments. Secondly, although they do not provide overall control, legacy systems are often very good at managing their own

particular piece of the network

mosaic. Thirdly, the equipment standards that are required for open management systems are still substantially incomplete. In one sense, the advent of high speed broadband technolmakes the task of modernising telecoms management capabilities easier. Net-

The intelligent 'agent' is a form of robot-like artificial intelligence

work management is often

built into the standards for these new technologies from the outset, and there is little in the way of investment in legacy systems needing to be amortised.

In another way, though, the shift to broadband just adds to an operator's management woes. Obviously, when networks are operating at speeds of billions of bits per second, fault detection and remedial action have to be fast.

in similar vein, according to Neil Rickard, European marketing manager for the USbeadquartered StrataCom enterprise networking concern. many more parameters need to be monitored, analysed and

Interpreted in the broadband

Less obviously, perbaps, the ability of broadband technologies such as asynchronous transfer mode (ATM) to integrate different traffic types has implications for quality of ser-

ent ways by faults or degrada tions in the network. Associated with this is the need to 'police' traffic so that, for example, a big data file transfer burst does not consume bandwidth that should

vice criteria since voice, data

and video are effected in differ-

be allocated to voice. Some serious re-thinking will also have to be done to facilitate the management of videoon-demand (VOD) networks. For the first time, networks will have millions as opposed to bundreds of elements requiring to be monitored and con-

"This kind of network management really does not exist today," says Rob Faw, president and ceo of Westell interpioneering high capacity delivery systems for the copper access network.

One bright spot on the broadband network management horizon is continuing progress made towards commercialising 'intelligent agents'.

Robin Smith, manager of strategic developments in the intelligent systems unit of BT's Research Laboratories in the UK, defines intelligent agents in this context as robot-like software programs which have the ability to communicate, co-operate and negotiate with each other.

From this, springs an ability to control future networks of a power and complexity far beyond the means of current management systems. And, according to Smith, the intelligent agent is one form of artificlal intelligence which is acceptable to bumans because its origin is hidden from view - "it's a Trojan Horse, but a

For reports on telecom ontsourcing and other aspects of network management, see

benign Trojan Horse," he says.

Personal communicators: Suppliers prepare for a long haul, reports Geoffrey Wheelwright

A big challenge for suppliers is to create standards in a market where none has existed

They were unveiled in a flurry of public announcements exactly one year ago by a host of leading electronics and telecommunications companies. but so far all the "personal communicators" or telecom-munciations-enabled personal digital assistants (PDAs) released by sucb manufacturers as Sony. Panasonic, Moto-rola and Sharp have failed to take off as high volume items.

California-based General Magic. whose Magic Cap operating system software is used to run many of these devices. Is also facing challenges. In spite of a record-breaking public stock offering earlier this year. General Magic has been slow to ignite the development of software to work with com-puters writteo for the Magic Cap operating system and has delayed the release of a vital Microsoft Windows-based ver-

sion of Magic Cap (to facilitata desktop wireless communications, as well as enhance connectivity to PDA devices) until the end of this year.

The company does appear. however, to be committed to staying for the long baul. "To date. General Magic has

generated minimal revenue from the sale of products and services based upon its technologies and does not expect to generate any significant revenues in 1995 and expects to incur substantial losses at least through the year ending December 31, 1996," said the company in its second quarter results statement.
And in its last quarterly

earnings report, telecommunications giant and chip-maker Motorola reported that its wire-less data communications efforts were not performing as well as anticipated.

"Growth has been rapid in the wireless communications arena, but global market penetration for devices such as pagers and cellular phones is still relatively low, at just above one per cent each." admitted Gary Tooker, vice

chairman and chief executive Motorola is still pushing to

change this fact, however, and at the end of July announced (through its Lexicus division) a handwriting recognition package for personal communicators using the General Magic operating system (Including Motorola's own Envoy system L

Known as Lexicus Quick-Print, it allows users to enter bandwritten notes on devices such as the handheld Envoy and turn them into typed messages that can be sent as electronic mail or stored as a phone oumber or internet

Unlike some other handwriting recognition add-on systems for these devices, Lexicus pledges that will not have to learn a specialised aiphabet or write in any specific style in order to QuickPrint.

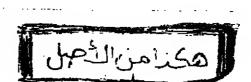
The company says this soft-ware will learn upper-case. lower-case, cursive-style printing or any mixture of styles and claims that users will be able to "teach" the software to recognise their handwriting in less than 15 minutes.

While this may be useful the big challenge for PDA bardware vendors, software developers and communications service providers is far more fundamental. It lies in trying to create standards in a market where none has existed - as well as in the basic task of just creating a market for the

devices themselves. While the Idea of being able to send and receive messages in a wireless fasblon on a device that tries to combine the convenience of a pager with the power of a personal computer's electronic mail system and a pocket computer's diary and scheduling functions, is attractive, it is neither an easy task to achieve nor one on which there seems to be widespread agreement about fundamental architectures and

And until that happens, the growth of software and services for such devices (which has been the key to driving sales of portable personal com-puters) is likely to be small and largely supported by the companies already involved in the market.

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Walue-added phone services: New and better ways to handle calls. Report by Joia Shillingford

## Personal communication services: Report by Tom Foremski

## How to delay those unwanted calls A rush to market Small devices offer from Orange mobile phones). introduced at the end of 1994 of Europe, 40 per cent of calls and 9.5m people now use it. remain unanswered or are met

big benefits in office productivity, especially for teleworkers

Secretaries used to be the way of solving the problem of how to be 'in' to some people - and out to others. But now, a small device from BT promises to do the same.

Called Caller Display 50, the device displays the number of the person calling so you can decide whether to pick up the call, or leave it for your answering machine/voice mail

harmless-lonking This device, costing £49.99, can substantially increase productivity. Let us suppose you are working at home to get a report finished, but a relative who is usually on the phone for around 20 minutes - calls. You can leave that call for the answering machine, but still pick up calls related to the

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Caller Display 50 plugs into a standard phone jack-socket and measures about three inches by five. The plug on the end of the phone then slots into the caller display unit.

The unit stores tha last 50 numbers. So, if someone leaves a message on your answering machine but forgets to leave their number - or does not say it clearly - you can look back and see what it was. You can also find out the numbers of people who called but did not leave a message.

Not all numbers are displayed, however. Exceptions include: numbers from some call boxes, which show up as Payphone; numbers which the caller withholds by pressing 141 before dialling, which show up as Number Withheld; calls made by using BT Chargecards; and calls made from phones which are not on the BT phone network (with some

International calls are displayed as 'International.'

So even when you do not know the number of the person who called, you will usually have the date and time of the call and some information about it. The only drawback is that you can only use caller display units on single lines, not on extensions to a company switchboard.

Caller Display costs £4 a quarter. in the US, Caller ID (the same as Caller Display) has really taken off in the last few quarters, probably due to increased marketing. It is growing by over 25 per cent a ear – in some areas, even faster. In the UK, Caller Display has only been promoted in certain areas, such as London, but already has one per cent pene-tration. US penetration levels are between four and five per

In the UK, those who do not want to invest in a caller display unit, or a phone with this feature built in (such as BT's £89.99 Relate 1000), can still take advantage of Call Return to find out the number of the last person who phoned. All you need to do is type 1471 and a computerised voice will give you their phone number. Users report they they do not

The demand for 'call display' facilities is growing fast

always recognise the numbers: one colleague stores all names and phone numbers in a sub-Filofax-sized computer called a Psion Organiser. Then, when he finds ont the number of the last caller, he simply does a search on the phone number to find out who rang.

Call Return and Caller Display are two of BT's Select Services (formerly called Star Serexceptions, for example calls vices). Call Return was

The service attracts 4.8m 1471 calls a day (to a free phone number) - 3.8m more than

BT's initial forecast. Earlier this year, BT also introduced a voice mail service for residential customers -Call Minder. This works like an answering machine, except

by an engaged signal as opposed to only 10 per cent in the US. From the perspective of a telecoms operator, this means that the network is often used without a charge baing made. Voice mail increases usage by increasing the number of calls that are

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that it is part of the telephone network. The difficulty of integrating Call Minder technology into the network, particularly on the billing side. resulted in a six-month delay in introducing the service. But

marketing began in April. Unlike an answering machine, if someone calls you while you are already on the phone, Call Minder will take a message and then ring you as soon as you come off the previous call. At present, BT is running a free, three-month trial for any phone user connected to a BT digital exchange. When the trial is over, the service will cost £5 a quarter.

Tha company is also developing a range of messaging services for people who do not have their own telephone. It is already testing a voice maillike service for these users.

Like most vaine-added services (VAS), voice mail is designed to increase use of the fication of how much the call phone network. In some parts . cost, once it is over.

answered first time. Other valus added services which can be used by anyone connected to a BT digital exchange include Call Barring and:

☐ Call Waiting. This lets you know if someone else is trying to get through to you when you are already on the phone. □ Call Diversion. This enables incoming calls to one number to be diverted to another. The recipient of the diverted call pays for the cost

of diverting it. ☐ Three-Way Calling. This lets you talk to people on two other phona numbers: either both together; or privately, one

☐ Reminder Call. You can set your phone tn ring at a pre-set time as a reminder. ☐ Charge Advice. If you preface the number you are calling with a few digits and follow it with a hash sign, you

can receive an automatic noti-

Although many value-added services are extremely useful, especially for home-based workers (such as teleworkers). they involve typing in barely memorable strings of numbers and characters, such as star and hash. Three factors may increase take-up, however.

☐ First, the popularity of mobile phones, which offer a wide range of value-added services, such as voice mail. Once users become familiar with using such services on their mobiles, they will be more willing to try them on fixed phones. Mercury and Cable TV companies with phone services also offer a number of valueadded services.

☐ Second, thosa who find 1471 useful may be willing to invest in screen-based phones. which show them not just the number of the last person who called but the 19 before that. These phones, which have a small liquid-crystal display, make it easier to use other Select services because they can be selected from a menu of options. ☐ Finally, a number of tele-

coms equipment suppliers are working on a second generation of screen-based phones. These will make it easier to use all sorts of interactive services from value-added phone services to home banking.

Craig Thomson, marketing manager for BT's Caller Display and Call Return, estimates that users with Caller Display spend 66p a month more on the phone than other

Caller Display has also helped to reduce malicious calls by 20 per cent and cut down the number of hoax calls to the emergency services.

"It's one example of bow technology can work to the public good," says Thomson.

The writer, Joia Shillingford, is Associate Editor of the Financial Times newsletter, Business Computing Brief

PCS technology could bring a revolution in communications

Personal communication services (PCS) is a wireless. digital technology operating over a specific range of the radio frequency spectrum. It offers cheap, reliable communications devices, linking telephones, pagers and computer devices

US companies foresee a huge market in providing small wireless PCS-based phones that will be less expensive than cellular telephones. But the US rush to develop PCS-based products could result in a patchwork of incompatible standards and an early shakeout as companies tackle the considerable expense of building the PCS infrastructure.

Earlier this year, the US Federal Communications Commission (FCC) completed the auction of PCS radio frequencies, bringing a staggering \$7.7bn (£4.81bn) in licensing fees as US companies and consortia tried to outhid each other.

Now the rece is on to build the infrastructure for PCS services in what FCC chairman Reed Hundt bas called "the greatest one-time private sector investment in any single industry in the nation's peace-

time history".
Industry observers estimate \$50bn will be required to build a nationwide PCS infrastructure. This will include installing at least 100,000 base stations which will pick up and route PCS transmissions. The PCS cell area is smaller than analog cellular phone areas, which means a higher density of base stations is required to carry transmissions.

In dense metropolitan areas, finding the space to place these base stations will be a problem. Many metropolitan areas also require special permits to build the hase stations, a process that could take as much as three years to negotiate.

The purchasers of PCS

licences are obliged to begin building the infrastructure as quickly as possible - an FCC requirement to prevent companies speculating and selling licences at a later date for a profit. Even without this FCC requirement, US firms are eager to begin producing a revenue from their large investments in PCS licences. It is this rush to market that looks

certain to create a nationwide patchwork of incompatible PCS communications technologies that will limit the usefulness of PCS products. Users who travel around the country will not be able to use their PCS devices unless local providers adhere to the same standards. The competition is between

the Time Division Multiple Access (TDMA) standard and the Code Division Multiple Access (CDMA) standard. TDMA-based technologies, such as the European Global System for Mobile Communications (GSM), are available from many different telecoms equipment suppliers. CDMA is considered a superior technology, capable of supporting larger numbers of users on the same number of radio frequencies. However, CDMA telecommunications equipment is stili

Big question

under development.

The dilemma for US PCS providers is whether to rush into the market with readily available TDMA equipment, or to wait for CDMA and miss out on early market opportunities. European suppliers of telecommunications equipment see a vast market in providing base stations and switching systems to US PCS providers. Companies such as Finland's Nokia and Sweden's LM Ericsson have already won contracts to provide a special version of GSM-based

communications equipment. CDMA offers a more efficient use of frequencies than TDMA. using a technique known as spread spectrum transmission and it is better at handing off calls between cell areas for users in moving vehicles, GSM supporters, however, say that GSM can be upgraded to similar capabilities offered by CDMA, through the use of new technologies that use advanced voice-coding techniques to raise the capacity of GSM based services. This approach is likely to affect the voice quality of conversations, how-

Market research firm Dataquest predicts CDMA will eventually prevail to become the industry standard by the year 2000. The battle lines between the technologies have been drawn but some companies, such as Motorola, plan to offer both GSM and CDMA equipment. Motorola believes there will be plenty of opportu-

nities to provide the market with whichever technology it chooses

The first PCS servica is likely to come from Destineer, a subsidiary of Mobile Telecommunications Technologies. Destineer, along with partner Motorola, is building a two-way paging service using Motorola's Tango two-way

This unit allows the user to receive text messages and reply almost instantly with pre-programmed messages such as: "I received your message and will call later." or "I'm tied up in a meeting." Tango will also offer a data port for downloading electronic mail messages. The service will use Motorola's Reflex

high-speed transfer protocol. Destineer has a bead start in the PCS race because it received a "pioneer's preference" award from the FCC. allowing it to forge ahead with building the two-way PCS service even before the FCC anction was completed.

As US firms gear up for PCS. it remains to be seen if the buge investments required will generate enough profits for all involved. Some industry observers predict that many PCS firms will fail because of the high cost of licences and tha huge capital expenditures required to build the infrastructure. The FCC has made it more difficult for companies to succeed by making sure there is plenty of healthy competition. In some metrnpolitan areas, the FCC has licensed as many as four PCS competitors.

PCS companies must not only compete with each other entrenched cellular phone service companies which have a large base of customers.

Cellular phone technology could also turn into a formidable competitor to PCS. Critics of PCS say there is no guarantee PCS-based mobile phones will offer better audio quality, or that they will be smaller, cheaper or have longer battery life than cellular phones.

US PCS providers might succeed if they can find additional services to offer, rather than simply going after the tele-phone and pager markets. PCS could be used to handle computer data communications which might include transmission of multimedia files and even vldeo-conferencing between mobile computer

# Fresh boost for ISDN services

Continued from page 28:

in the form of showcases and demonstrations. As one examnle, Global 95 (November 28-30) will feature a series of events by operators and vendors spread over 50 locations aroound the world. Marcury refers to it as a 'virtual' event more concocted than real.

At the TMA exhibition in Brighton, it will demonstrate ferencing, virtual networking, local area network (Lan) interconnection, integration of local file transfer to other Global 95 sites in the US and Germany. Mercury bas lts colours

nailed firmly to the mast of Q.931, the European signalling standard that is now also being considered by a number of US operators. While the use of an international standard may not offer some of the features available from national signalling standards, it does ensure that there is compatibility between different operators, aiding the progress of international ISDN and speeding call set-up times. Thesa are at around 3.5 seconds between the UK and US, according to Frank Jauncey, sales director of KNX.

Clive Curtis, Mercury'e product manager for ISDN services. believes that the company's adoption and introduction of

increase in international primary rate traffic - "it significantly alters the use and pattern of use," ba says. It used to be the case that

international primary rate ISDN predominantly consisted of switched voice calls since more than 98 per cent of ISDN connections were used to connect to a PBX or office switch, says Curtis.

As more and more PBX mancapability into their switches and as offices replace ageing switches, an increasing number of companies are using ISDN for data, says Curtis. They can now opt for a pri-

mary rate ISDN connection into their switch and can then allocate four or six B channels for ISDN data use rather than opting for the much more expensive solution of equipping each desktop with two channels of basic rata ISDN.

While switch manufacturers are enabling users to split out basic rate channels from their primary rate connection into the switch, router manufacturers have also jumped onto the ISDN bandwagon. Once again, this is directly attributable to the introduction of Q.931, Curtis believes.

Previously, router vendors were unwilling to produce a number of different versions of a box in order to fit in with national variants of ISDN. Now Q.931 signalling around 12 they can see that there is a months ago has lad to an standard that will enable con-



ISDN Enics from the desictor Alcatel Business System's 4400 PABX phone offers rapid and ss voice and data service

nection to be made internationally, boxes have been developed that are effectively a terminal adapter and ronter rolled into one.

ISDN is thus being used for remote Lan access between small sites equipped with an ISDN 2 (basic rate) connection and head office.

Previously, head office would have needed a bank of terminal adapters and multipla router ports; now they can use a single box with one primary rate ISDN connection and ona lan connection. By replacing expensive router ports, the combined box approach offers

well as saving on space. Mercury believes that it can take some credit for driving developments on this front. As the first network operator to offer Q.931 on a national basis it has made available laboratory facilities at its Bracknell campus and provided vendors

with access to its network. This gives them confidence that their equipment or application works and how it rtis. "We' Savs kick-starting the market."

He adds that the next stage is to drive forward availability of the supplementary services defined for Q.931, auch as advice of charge and international CLI (calling line identification).

This involves etandardisation of ISUP, the part of the signalling from user to exchange and between different operators' exchanges. Mercury has a rollout programme on its international routes and aims to provide transparent connectivity within Europe and then ou a global scale.

In the meantime, there is fairly limited implementation of ISDN used internationally. One example is GEC company. Avery Berkel, a manufacturer of food processing and weighing systems. For the past 12 months, the company has used basic rate ISDN between the UK and Germany, replacing

board to cover traffic reports:

implement primary rate ISDN to connect up its UK manufacturing headquarters with PC networks in its four other European sales and service sites for the transfer of information such as drawing specifications.

"It's a demanding application because we're linking whole networks together," says IT manager Mike Coulson. Use of ISDN has provided savings that one line, he adds. The link is used solely for data transfer, not for voice. Users who send data over an

ISDN link have to put an extra '0' into the inital address string, differentiating data from non-data traffic. This ensures that their data is sent over an international link on which no compression is applied, thereby reducing the likelibood of corruption of their data during transmission.

Operators also benefit from the ability to differentiate between switched voice and non-voice traffic. While voice international tariff, "tariffing is different for international 64k calls," says Curtis. "It's charged as a premium rate international call".

For applications such as vidao-conferencing, the charge might seem fair enough, but for data, users may find the premium rate charge barder to stomach. Yet another disincen-Avery Berkal is about to tive for using ISDN, perhaps.

# Speedy response to calls

Continued from page 31

ual officers. South Yorkshire Police pioneered the system in 1993, providing a direct link between its 2,800 beat officers and callers. An officer attending an incident gives unt a card containing his number. and witnesses can dial into the mailbox to leave information that is retrievable 24 hours a Clarke, then telephone man-

day. For example, a "Dodgy Drivers Day", inviting people to report untaxed or unsafe vehicles, proved highly effective, with calls flooding in long after the specified day.

Police. "Soma people prefer to leave a message on voice mail because they don't feel as though they are being interro-"It has eased pressure on our switchboard by diverting

In Leicestershire, the system bas been put to use to deliver sergeants' and inspectors' thousands of non-urgent calls . every month to the appropribriefings remotely, and the ate beat officer," says Alan force is considering the use of Police Messenger as a bulletin

for example, road closures when there is a pop festival at Donnington Park. ager at South Yorkshire The Kingston Police Messenger won a top award at the

Telecommunications Industry Association. in September 1994, partly because of the anthusiasm of the public. A public opinion poll proved its popularity: "Better communications are important, especially for the police, and this is a good investment if it frees up the 999 number and means that messages reach the right person," said one interviewee.

Airline inquiries

For the airline Virgin Atlantic, speedy response to customers is so important that it is currently overbauling its entire global network to cope with the rapid growth: the number of PC users at Virgin has rocketed from 50 to 1,500 in the last four years.

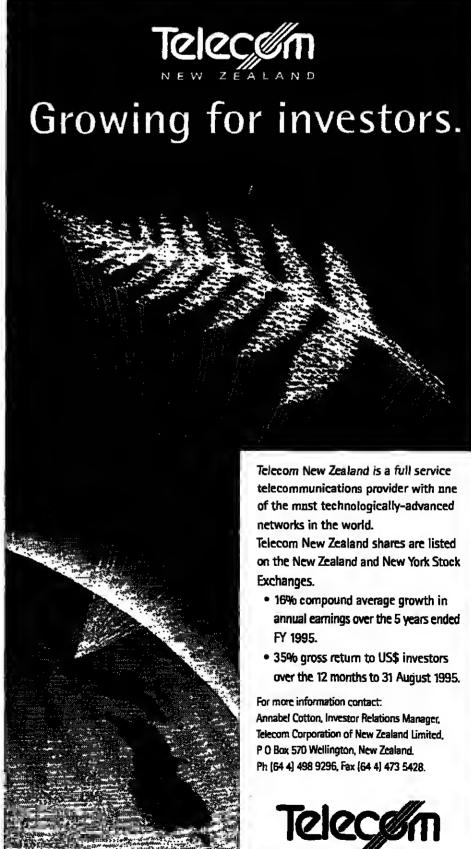
Virgin Atlantic is already using a variety of technologies - call control, voice processing, and interactive voice response - in its everyday dealings with customers. Among other global projects, Simon Keene, Virgin's Systems and networks manager, is currently looking at worldwide CTI applications for Virgin Atlantic - "the key benefit is

the integration." be says. "We bave several customer databases which bold information on reservations, customer relations, and Virgin's Freeway daily frequent flyer programme. They are currently not integrated into our call centre and voice management systems, but we are aiming to improve the service, making it easier for customers to talk to us direct. We need to speed up the transaction, and that means a better service."

Freeway handles thousands of calls daily. The new system will still rely on human operators, but all the customer details will sppear immediately because all the database searching will be done before the agent answers, using Calling Line Identification and CTI database techniques.

"We are looking at integrating our internal voice network and computer network. It's a vast area, with many business benefits internally, such as users being able to check voice mail and get messages wherever they are," adds Mr Keene.

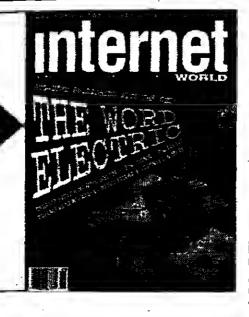
Virgin already uses an automatic call distribution system for reservations and customer relations, and for Virgin Freeway, the frequent-flyer clnb. Other internal departments are also booked in to the ACD



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usually the first candidate for

VPN treatment. According to

Clare McCarthy, co-author of

the Ovum report VPN Services:

lished, this is because there are

good deals to be had for voice,

run data over private net-

As you might expect. VPNs

backs, too. One is that security

and user control may be less

than in private natworks. Another is that technology.

telecoms regulation and the

economics of delivery are

changing ao quickly that

# Bigger savings for users

Cost-cuts of up to 30 per cent are available on some telecommunication services, claim ISR operators

"Less is more" was one of the guiding principles of pioneering skyscraper architect Ludwig Mies van der Rohe. For the architects of telecoms international simple resale (ISR), the belief is that more is both less . . . and more.

In recent years, ISR has been seized on by the governments of a number of countries as a mechanism for reducing what are perceived to be excessive prices paid for international telecom services. The basic notion is that the licensing of more service providers will mean lower residential and corporate telephone bills, which in turn will stimulate more traffic. "It's an alternative to offering full international facilities and enables competition to flourish on certain routes." says Vince Affleck, a specialist on netvork competition at the UK's

The ISR pitch is a fairly straightforward one. Customers access the ISR operator's network over the dial-up public switched telephone network (PSTN) or, if traffic warrants it, over private circuits, international circuits leased by the ISR concern then carry the calls to designated countries, where they "break out" once again into the PSTN for delivery to their final destinations.

The ISR operator makes Its money by hiring bulk capacity from full facilities operators such as BT and Mercury, dividing and marking it up, then selling it on to users at rates below those charged by the national telecom companies for normal interoational direct dial (IDD) calls. End-user savings of the order of 30 per cent are claimed by some ISR

operators for some routes. The UK is a global pioneer in the ISR game. As far back as 1990, the then director-general of Oftel, the UK's telecoms regulator, Professor Bryan Carsof putting pressure on dominant UK carrier BT to lower its mately \$700m. Further than overseas charges In September 1992. ACC

Long Distance UK became the first ISR carrier licensed in the UK. Due to the difficulty of agreeing interconnect terms with BT - a circumstance which ACC's director of legal and regulatory affairs, Michael Taylor, put down to the ground-breaking nature of tha situation - ACC only began services in early 1994.

ACC has since made up for lost time. By August of this year, ACC's PSTN access service was carrying 15m billable minutea of telephone traffic each month. In July, some 4 000 new business and residential customers joined the ACCess 1601 scheme, pushing the company's revenues to over £1m a month.

"Our policy is simple. ACCess 1601 tariffs are much lower than traditional alterna tives and there is no member ship fee,"says ACC marketing director Jerry Morris.

ACC is not alone. According to Oftel figures, there were 16 ISR operators licensed in the by late August, with several other applications in the pipeline. At that time there were six ISR routes from the UK - to Australia, Canada, Finland, New Zealand, Sweden and the US.

Perhaps surprisingly in view of the threat to its revenues. BT said It welcomes ISR. The former monopoly may not just be trying to make public virtue out of an imposed necessity: the dent made in BTs profits hy ISR is as yet very small. More important. BT is understood to bave actively pushed for the introduction of ISR on the North American route to get its \$4.3bn Concert joint venture with the second largest US carrier, MCl, on the

ISR is a significant component in Concert, a business which provides end-to-end managed network and outsourced services to the world's largest multinational and international corporations. In June 1995, on the first anniversarv of its establishment, Concert's owners said the enterprise bad signed up some 2,000 customers and had notched up contracts valued at approxi-

is, as a spokesman for the UK's Department of Trade and Industry (DTI) points out, the full facilities carriers still get part of the ISR sale, and the circuit capacity involved may otherwise have sat ldle. But not everything in the

ISR garden is rosy. In the first place, there is a limited number of routes on which ISR is licensed. In practice, the DTI only gives the go-ahead for ISR to destinations where telecom market competition is judged to be as well developed as in the UK.

Essentially, what we look for is to establish ISR between regulatory regimes which are liberal enough to allow UK companies the equivalent freedom to provide services," says a DTI spokesman. "There has to be market transparency and

## ISR is often a key component of telecoms liberalisation

Although the DTI is looking at additional destinations. soma see lack of universal connectivity as a serious flaw in the ISR case.

"When you look at the traffic patterns of the sort of companies that would be interested in the ISR routes, they also have a large amount of traffic on other routes," says Guy Stacpoole, until recently the head of business telecoms at UK cable operator Telecential. "If you're able to offer competition and competitive prices on all of the other routes as well, the very small advantage the ISR people have on their cbosen routes is not sufficient to move the business their way.

Secondly: according to BT. pure ISR operators do not bave anything like the network redundancy of the full facility carriers, and users may encounter congestion with some operators. Last, but certainly not least, ISR margins are coming under pressure as IDD prices fall and the gap between the cost of IDD and leased lines narrows. "There's a window at the moment, but bow long it will stay open remains to be seen," says BT. Using technology to squee more calls on to a line is a

possible response by ISR operators, but there may be a quality penalty. "The critical pricing element for resellers is the cost of renting bandwidth, so they may be forced into tighter volce compression to increase capacity," says the Telecommu nications and Media Review published this year by law firm Baker & McKenzia and the Deloltte Touche Tohmatsu International consultancy. "This would offer a lower

hunting customers. Not all ISR operators appear to be equal, however. "ISR has a low end and a high end," says Mr Taylor. "Effectively, operators at the low end are engaged purely in arbitrage across facilities-based providers' tariffs. Although obviously very keen to price ourselves competitively against BT and Mercury, we also have our own switching facilities and a proprietary state-of-the art billing

system. We're able to provide

services over and above what

grade of service for bargain-

other ISRs can offer." ACC also rejects the Idea that the present shortage of licensed routes is an impediment to doing business. "While only a small number of conntries are designated, we deliver calls to those countries and then bub out on the PSTN. There is no destination in the world to which we can't deliver," says Mr Taylor. In this case, the argument is that the ISR operator is still able to offer competitive rates because, unlike BT and Mercury, it does not have to pay the normal correspondent settlement charges to an overseas carrier for the International

conveyance of calls. ISR is a key component of telecoms liberalisation in a number of countries. Where the relevant authorities sanction equal access, allowing customers to designate an international carrier at the outset rather than dial one up on a call-by-call basis, the prospects for this form of competition look particularly bright. The writer is senior technology

editor, Global Telephony

# Wirtual private networks: Top companies are switching to VPNs, writes John Williamson Big benefits for business

outsourcing business is pro-

ceeding through so-called

A number of advantages are

claimed for VPNs. Lower cost

is the most important in the

view of lan Wright, marketing

director for France Télécom

Network Services. By consoli-

dating traffic, users are abla to

benefit from discounts which

are offered by many telecoms

At tha same time, VPNs

which are charged for on a

usage basis are a more eco-

nomic proposition than fixed-

cost private networks if lines

are used only intermittently.

companies

"supercarrier" alliances

Lower telecom costs and consolidated management lure the corporate

A recent survey carried out by the UK's Ovum consultancy confirmed what many people tha telecommunications industry have suspected for some time: business enterare switching more of their traffic on to virtual private networks (VPNs).

Interviewing members of the liser Panel (ETTIP) - a body made up of 100 senior telecommunications executives representing blue chip multinational corporations in tha region - Ovum found that more than 50 per cent either already use VPNs or hava plans to do so by the end of this year.

Interestingly, of ETUP members with falling axpenditure on dial-up public switched telephone network (PSTN) aervices. 50 per cent said their VPN budgets were increasing and 45 per cent said their spend on leased circuits was increasing.

In turn, of those with decreasing leased circuit hudgets, 46 per cent said VPN investment was increasing.

In practice, VPN is not a precise term - "a VPN can have different huilding blocks," explains Peter Hamalberg, director of standards and International affairs at Dutch national carrier Koninklijka PTT Nederland.

"You could use PABXs and leased lines at one extreme, You could just use public switching and not anything private at the other. There are all sorts of variations in

In general, though, VPNs can have two distinct aspects. One is that elements of the public network are allocated by operators for the private use of business enterprises The second is that the VPN is "seamless", with operators providing a homogeneous repertoire of services at each location and a single point of responsibility for provisioning, installation, service and billing. This last is of particular relevance to users operating internationally or globally. Related to the seamless VPN

is the idea of outsourcing. This involves telecommunications companies or specialist service providers taking over the construction and day-to-day operation of a user's network and the systems which support it. Given that this type of customer is likely to have worldwide telecommunications requirements, and that no one

telecom operator can provide a

full service in all locations, the

Typical VPN service compoents are network-wide private numbering plans, transparent transport of PBX signalling across the network, heteroge neous PBX interfacing, cellular network access, interfacing to private networks, mechanisms to handle traffic overflows, and call screening capabilities.

Added to cost savings, says Udhay Mathialagan, group

manager for international

products at Australian carrier

Telstra, are consolidated man-

agement and the ability to

manage networks in different

countries. Other VPN benefits

result from the fact that tele-

coms companies' infrastruc-

tures are already in place, new

technology and npgrades are the responsibility of the VPN

operator, and billing can be

arranged in different curren-

cies and in various locations.

be disadvantageous to the user. A third is that interoational VPN operators generally cannot provide all the routes an enterprise might conceivably require. Also, international VPNs

long-term VPN contracts may

(IVPNs) have not always been able to deliver the goods in terms of universal service features, management capabilities and flexible billing options. "IVPNs' inability to meet all of these requirements on a global scale has been hampered by several factors, mainly related to the fact that various operators have to co-operate in order to provide a global IVPN platform," observes Wright. "This involves linking different network architectures, different billing systems and operating across different regulatory environments. The effectiveness of an IVPN solution will

be dependent upon the operators and geographic areas involved, as well as the site density of the user in any specific country."

Mnrket Strategies, just pub-An anawar may be Global VPN (GVPN) services furnished by joint ventures and but it is often still cheaper to alliancea of operators with complamentary skills and points of presence in multiple countries. have some potential draw-

A partial list of these supercarrier alliances includes the embryonic \$4bn Phoenix consortlum of France Télecom Deutsche Telekom and Sprint of the US; the Cable & Wireless federation; the tandem Uniworld alliance uniting the Unisource group of the national Dutch, Swedish, Swiss and Spanish telecom companies and the WorldPartners consortium involving AT&T and several leading Asia-Pacific telecommunications carriers; the Stentor consortium of Canadian carriers; and the \$4.3bn partnership between BT and the second-largest US long distance carrier MCL

The last claims to be 12 months shead of the supercarrier competition. By Jane of this year Concert had huilt a network comprising some 6,000 nodes in 800 cities across the world. However, says Ovum the Anglo-American alliance will need an Asia Pacific partper if it is to be one of the globally dominant players.

As well as GVPN services super-carriers are offering to take over the running of corpo rate networks. Network outsourcing in this way is claimed to save husiness enterprises up to 20 per cent of their telecom munications expenditure and perhaps more importantly allows enterprises to concen trate on their core business activities. "Companies such as Rank Xerox, for axample clearly need telephones and telecoms to make their whole businesses function, but they're not telecommunications suppliers," says Mr McCarthy.

Some telecom operators see the construction and operation of global supercarrier networks as critical to their survival in the medium term, and many observers forecast that as few as five such telecom company partnerships will dominate the entire GVPN and ontsourcing business in the next century:

. Other trend watchers believe that supercarrier alliances face an uphili struggle in building credibility with users and in assembling a service repertoire which will have mass appeal. Mr Mathialagan takes a pragmatic view: "It's not about building billion-dollar networks. It's about rolling up your sleeves and getting ser vices for customers in countries where they want them." The author is senior technology

editor, Global Telephony



Among blue-chip multinational companies, more than 50 per cent either ady use virtual private networks or have plans to do this year. Pictured here is a control room of MFS Communications, in the US, the company operates a full carrier services in more than 40 cities

■ Billing: Telecom suppliers seek to upgrade their accounting systems, reports Philip Manchester

Corporate voice traffic is

Global telecoms, digital 'cash' and the information superhighway promise to make billing even more complex

Utility companies are forced to compete in distinctly odd ways. The regional electricity companies in Britain, for example, are now rushing to npgrade their accounting systems. They need to meet the new demands of competition which will follow the complete de-regulation of the industry in the next couple of

While they will not be able to compete on the efficient delivery of alectricity to the consumer, they will be able to compete effectively by reducing their administration overheads. This will allow them to charge consumers less for pro-cessing their bills.

The talecommunications

industry is in a similar situation. It, too, can gain a competitive edge by finding ways to reduce the cost of billing its customers. Billing telecom nications users has always been complex and difficult.

The average telephone user, for example, wants itemised bills broken down into minute detail - at a cost to the supplier which can aomatimes ed the valua of the bill.

The arrival of global com-munications, digital 'cash' and the information superhighway promises to make billing even more complex - "wben you step into the global telecommunications arena you can be required to bill anywhere in the world. In many different different tax regimes," says Mr Michael Storey, of international telecommunications

supplier MFS, "We have had to invest in a global billing system of our own because you just can't buy it off the

"We are making do with a package solution for the time being. But hy the end of next year we will have our own billing aystem in place." he Mr Storey admits that the

company sees the opportunity as a way to gain competitive edge - particularly over established telecoms suppliers.

"Almost all of them have

emerged from a national domestic marketplace. My impression is that the more established ones have invested in so much infrastructure that it is too costly and time-consuming to

"They have acknowledged the need and are moving slowly and cautiously. But global telecommunications is a different world. You need a hllling system which can respond to customers needs -you could call it a billing support process. If it is good enough, it differentiates you from the competition," he

Some financial customars want detailed bills, right down to individual traders' desks. They want detail by function, by geographical area and by

"On top of that you have to overlay 30 or 40 currencles and 30 or 40 different tax regimes. Some specify that they want the bill sent, say, to New York and summary reports elsewhere."

Not all telecom suppliers see the emergence of interna-tional services causing billing and administration problems, however. Mr Pat Sutton, online capabilities manager at UK telecoms supplier Mercury Communications, suggests that it could even be easier to hill for on-line services than for standard telephone calls. "The nature of on-line services is that most people access the network locally. They incur local call charges and the rest is billed through the Internet. One thing that telecommunications companies are good at is billing for small amounts," be says.

Mr Sutton goes on to describe several different approaches to billing for online services: "Premium rate services are already well catered for and there are new services based on credit card account numbers emerging on the internet. On top of that

## International companies seek detailed bills involving up to 40 currencies

you can set up subscription services or even use the new digital cash services, such as Mondex - although that is not really relevant to online ser-Mr Sutton dismisses worries

about security - despite a recent successful attempt to break the security on Intercet financial transactions. An incident in August, when a researcher at the French National Institute of Computer Science and Control (INRIA) broke into the internet security system, raised concerns about security.

"A lot of security is about perception - after all, every code can be broken. The INRIA incident only involved breaking a single code and needed massive computar resources to do it," says Mr

Lack of security for financlai transactions is one of the most common reservations expressed by companies when they contemplate commercial use of the network.

But in the long term it is unlikely to act as a disincentive. One possible solution is that the problem will become someone eise's responsibility.

Mr Steve West of the giant US software company, EDS, sees the emergence of a new specialist who can take over the administrative problems of networking - "we call them infomediaries - specialists who broker information and handle the problems associated with billing and adminis-

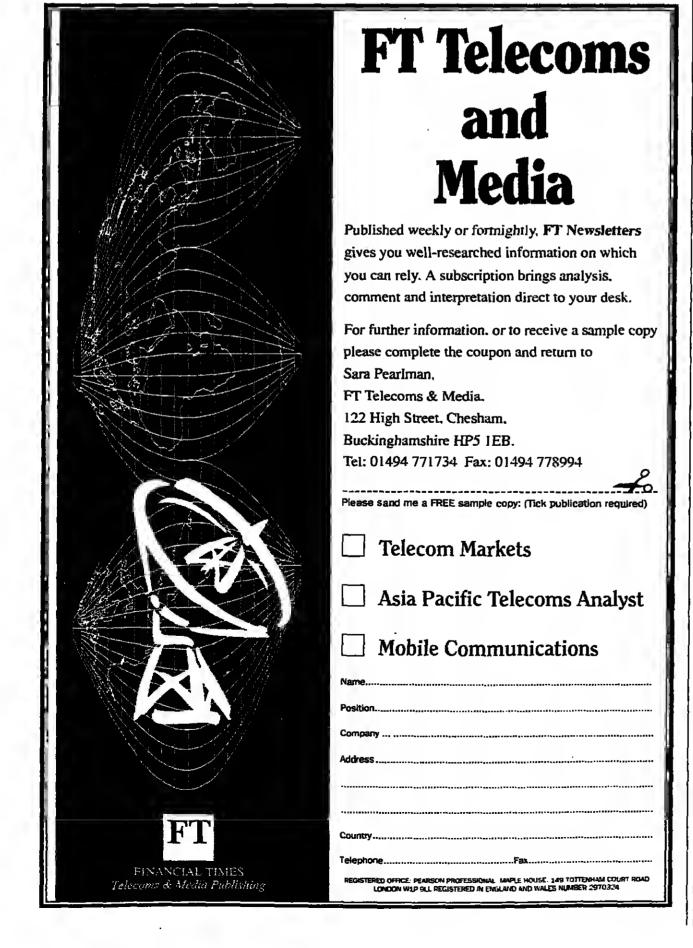
tration," he says. "We are already seeing some of these in the form of Compuserve and American Online. The publishers of the Official Airline Guide are another example. All they do is collect information and distribute it."

Mr West sees a growing number of "infomediaries" working on tha network although in the long term he

expects only a faw to survive. "First of all, we will see a lot of these. Then we will see them collapse into each other. And down the road there will probably be only three or four large ones."

Mr Storey of MFS accepts that the competitive edge offered by efficient billing will not last forever: "In a few years' tima, everyona will have effective billing. But until then we will guard our billing systems closely once we have them installed. We don't want to give away our

No doubt other teleco nications suppliers will adopt a similar approach. The advantage for customers. of course, is that efficient billing systems will help in some small way to cut the costs of using the telephone system.



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# Downtime can spell disaster

One US network management system has the ability to monitor anything we can get a pulse from'

Whether dealing with national and international telecommunications networks, or a small local area data network within a single company, the biggest problem to be faced is network management.

The most technically complex and functionally rich network is of little value if it fails to work. It is even more of a problem, particularly for users, if the cause of a fault cannot be identified, located and fixed in the shortest possible time. This can be a significant problem even with small networks using equipment and services from a single supplier, but that is rarely the reality for the majority of users.

Company data networks are invariably constructed from a variety of products and services, all from different suppliers. There can be mainframehased legacy systems, a variety of flavours of Unix, plns Novell'a NetWare or IBM's OS/2 for the local departmental traffic. For telecommunications providers, the problems are even

AT&T, for example, claims to have the higgest network in the world. Voice traffic alone uses 450,000 active telephone stations, 24,000 trunks and 560 Private Branch Exchanges.

Associated with this network are seven data centres, 225 host computers, 350 servers, 450 routers and some 150,000 logical devices.

. . As with the company data networks, each of these systems will normally have its own management tools, and methods for informing operators of problems. This usually means a separate display terminal for each system, highlighting fault conditions. Operators, therefore, often have the information they need but in such a complex and dislocated form as to be of limited mangeement value.

available from many systems . event can be measured elec-



Today's complex networks are a far cry from the early days of telecome: this historic line the moment that first intelligible words spoken over the telephone at Exater Place, Boston, on March 10, 1876. The words were: "Mr Watson, come here ..."

nies such as IBM, Hewlett-Packard, Sun and Novell, but the general trend is for them to provide systems mangement services from within their own offerings, and only if other systems can interface to

their management services. Within the suppliers of company data networks, industry observers tend to agree that Hewlett-Packard'a OpenView provides the most comprehensive service. But even with data networks, there is usually a need to monitor and manage a wider range of systems and services than covered by the offerings of the computer com-

Integrated solution A US-hased company, MAXM Systems Corporation, of

McLean. Virginia (with UK offices in Godalming, Surrey) claims to have developed a solntion to this problem of managing complex, beterogeneous networks, with its MAX/ Enterprise system. This is said to provide 'global event management', and it is the compa-Solutions to this problem are. ny's boast that, so long as the providers, particularly compa- tronically, the system can integrate its monitoring and management into a single event management structure.

For managers of company data networks, the system can provide a singla management display that integrates events from any number of incompatihle information systems. This is regardless of whether the system in question uses proprietary protocols to communicate those events, or standard open protocols such as Simple Network Management Protocol (SNMP). The same service can be supplied to telecoms network managers working with many different varieties of routers, switches and trunks. The system provides the tools for managers to grade the priority of any 'event', so that they know which are the most

important and demand immediate action. At AT&T, for example, all events are called 'alarms', yet an alarm can range from a problem with a single handset through to a significant portion of the network failing.

These extremes ohviously have different priorities in maintaining the overall service level to users, and in an organisation which estimates it has

over 900,000 'alarms' a week, it is an essential management function to know the difference

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as soon as possible.
The MAX/Enterprise system is already being used hy many leading network users, from AT&T through to large financial and husiness organisations, it is in the business sector that the company hopes to make its biggest inroads. According to its presideot. Jack Reis, the system's ability to monitor and manage 'anything we can get a pulse from' extends its use beyond conven-

The company has already implemented systems that integrate the monitoring of largescale refrigeration equipment into a network management environment, and sees a signiflcant market potential in similarly integrating such husiness-critical processes as manufacturing, production and storage, to create more complex and comprehensive business information management

tional data network manage-

Network management report: see page 19; network ootsourc■ Desktop video-conferencing: The market will quadruple this year, reports Tom Foremski

# Fresh ways to create a shared work environment

Computer makers are planning to introduce PC models already equipped with a digital camera, microphone, and video-conferencing software

combination of new technologies and greater availability of digital telephone lines is making it easier and cheaper to provide video-conferencing on personal computers. It is a development that could potentially change the way people conduct business, educate themselves, and how they communicate.

Desktop video-conferencing, however, goes heyond turning personal computer into a video telephone. It essentially creates a shared work environment that encourages collaborative efforts between individuals separated by geography and time zones.

The greater availability of Integrated Services Digital Network (ISDN) lines, a move toward common technical standards, and the development of inexpensive software-hased video-conferencing applications, are all helping to fuel a rapidly growing market. The US market research company, Personal Technology Research estimates the worldwide market for PC-based video-conferencing systems will quadruple in 1995 to reach \$120.4m (£75.2m). By 1998, this global

market could be worth \$2.1hn. With expectations of tapping into these markets, PC makers are planning to introduce PC models already equipped with a digital camera, microphone, and video-conferencing software, it is the first stage in a trend that is likely to lead to video-conferencing becoming a standard feature on desktop PCs and even some portable computers.

Apple Computer, IBM, Deli Computer. Compaq Computer. Canon Computer Systems and Zenith Data are among manufacturers which have demonstrated PC models with built-in video-conferencing capabilities. designed to work with ISDN

US telecommunications companies such as AT&T see video-conferencing generating Almost 60 per cent of AT&T's ISDN lines are used for videoconferencing, and the emergence of inexpensive desktop video-conferencing systems should spur demand for ISDN

The biggest breakthrough for video-conferencing systems bas been the development of software-only applications. Normally, users need to buy add-on hardware and software. which can cost as much as \$2,000 per user. Intel has been leading the low end of the market with its ProShare videoconferencing systems for as little as \$900 per user.

Late last year. Intel introduced its Native Signal Processing (NSP) technology which makes use of the high performance of Intel's top-end microprocessors to handle video and audio processing tasks usually dealt with by digital signal processing (DSP) chips. It demonstrated a software-only version of ProSbare using the NSP technology to transmit e video-conference



Associates, a UK marketing and PR consultancy – dial-up video-conferencing is a routine way of communicating with clients in the UK, the US and Scandinavia. Typical costs, using ISDN digital telephone nes, are around £12 for a one-hour call in the UK and £60 for a similar call to the US

call between chip engineers. "With native signal process ing, we can make use of the unused performance of the microprocessor for other

tasks," said Intel CEO Andrew Grove at the launch of NSP. According to Mr Grove, a personal computer is rarely required to perform at its peak capacity, which means the microprocessor could be used to handle additional tasks such as video-conferencing.

But there are some concerns that eveo powerful microprocessors such as Intel's Pentium do not have the capacity to

The new video conferencing trend spurs demand for ISDN lines

handle computer inteosive

Some critics of NSP, mostly DSP manufacturers, say there is little point in using Pentium microprocessors which cost several bundred dollars each to perform a task that can be easily handled by a DSP chip costing about \$10.

Despite problems with establishing NSP as an industry standard, Intel's focus on developing a software-only ver-sion of its ProShare videoconferencing product shows the direction other vendors must take. US firm Vivo Software is another company that bas developed a software based videoconferencing system for

Wednesday, October 4.

and intelligent systems.

Windows PC users. An agreement on communi-

cations standards is helping the market. The Intel-led Personal Conferencing Working Group, a consortium of desktop video-conferencing companies. earlier this year agreed to support the International Telecommunications Union's H.320 and T.120 standards within the oext version of their Personal Conferencing Specification. This represents a significant step forward for desktop videoconferencing, since users of Intel's ProShare product could previously only communicate with other ProShare users.

New US laws that seek to limit car pollution in metropolitan areas are another incentive for companies to try videoconferencing as part of telecommuting programs. This trend also betps to feed demand for ISDN lines. While PC-based video-confer-

encing systems are the fastestgrowing sector of the market, traditional room-sized and roliabout systems are also thriving. US market research firm Dataquest says the limitations of desktop video-conferencing systems are driving demand for larger room and roll-about systems. The larger systems can handle group meetings. "Group conferencing systems

have been the true beneficiary of all the desktop video-conferencing hype of the last two analyst at Dataquest.

FT Review of Information Technology: The November issue

"Business-users are telling us that the true need for conferencing systems, group-togroup meetings, is served by the best technology available.

room and roll-about video-conferencing systems." Individual and group videoconferencing systems all suffer

from a fundamental problem: bow to convey the subtle video and audio clues that are present, mostly in the periphery, during face-to-face meetings. For example, PC-hased videoconferencing systems produce relatively small images of peo-

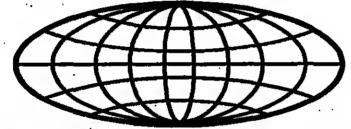
ple on the computer display and the video quality is often ierky and of low resolution. This makes it difficult to maintain normal eye contact between conversing parties. In addition, camera angles can distort people's faces, further complicating the cooversation. Scientists at AT&T Bell Labs have come up with a prototype liquid crystal computer display that hides a digital camera

directly behind the display. This provides a more natural image than that obtained from a camera mounted on the side of a computer display. Japan's telecommunications giant, NTT, is experimenting with a "virtual room" concept

which attempts to mimic a real group meeting. A prototype system has been built that uses a 50-inch display to show multiple images of the participants. The system creates an to the left and right sides of the viewer, just like at a large conference table.

These types of should belp to improve the quality and the experience of video-conferencing systems and also to build demand for more telecommunications ser-

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to the dollar

The market could be worth around \$500m in 20(10). rising to \$2bm by 2005, say analy st

rices among the five terrains which have emerged with the

The race is lean extent a value ment by the belief ame. many analysts that a track bil mobile satellite .... by financially viab: in fall by the way strice waste

taken The world media thoms market is the a End, according to \NN\
len Beare Govern and the be worth \$6.500 ::: has time. It suggests the bid satellite market are less to the sat ding to S2hn by \_\_k:\

Mile telephooe calls \_\_n the costs of both Called and ment are prohibitions also been needed has to be a large suitcase

gration with ing services satellite men.

a said involve design will be slightly large



ling satellite links over France: an uplink site on the roof of BT's Eurocentre in Paris, serving 750 insurance agents across France

Mobile satellite services

# Consortia look to the stars in a multi-billion dollar race

\$1.8hn in the hond market.

Tha consortium has opted for

a low earth orbit system, the

so-called "Leo" system, involv-

ing the placing of as many as

60 satellites in orbit below

method for installing the hard-

ware required, the satellites

have a shorter life and require

more maintenance. Analysts

estimate a low earth orbit sys-

tem could require an addi-

tional \$3bn in replacements

and other costs after five

years, However, Iridium's sup-

porters say that low earth

orbit provides greater flexibil-

ity, takes advantage of new

technology and gives more

Systems operable

Globalstar has also chosen a

Leo system, although its con-

stellation will be based on 48

satellites; Both Globalstar and

Immarsat-P and Odyssey

orbit systems for their ser-

has raised \$1.4bn from its con-

ther \$1.2bn likely to be

ment is expected shortly.

the system to the fore.

tion was unique and attempted

to claim a patent on all low

earth satellite configurations.

Although the patent was with-

drawn at the last moment, the

company did eventually gain a

patent for a majority of the

claims it made in its original

application. However, it fell

short of excluding other com-

panies, such as Inmarsat from

Patrick McDougal, vice-pres-

ident of business development

and extarnal relations at

Inmarsat-P, aaid tha TRW

patent would not affect the

European gronp's plans.

We've looked very carefully

at it and the only similarity

between the two systems is the

service they aim in provide.

He pointed to substantial dif-

ferances hetween the two

systems, such as in the num-

ber of satellites, the frequency

band, and the use of digital

Despite its claim to success.

Odyssey still has to sacure

external funding for its devel-

As the leading consortia get

closer to a launch date, the

issue of financing will take on

a greater emphasis for thosa

still seeking funds. "The first

ones in the air will steal a

huge march on the competi-

tion," said Jnhn Lewis, tele-

coms analyst at Hoare Govett.

after the war in space, the

next battlefield will be among

equipment manufacturers.

with telephone manufacturers

striving to make the most por-

table and compatible tele-

phones at competitive prices.

Analysts also believe that

technology.

using a similar orbit.

systems operable by 1998.

by 1998

While this is the cheapest

10,000km above the earth.

The market could be worth around \$500m in 2000. rising to \$2bn by 2005, say analysts

The race to create the first satellite hand-held mobile telephone service is gathering pace as the funds to put the multi-hillinn dollar systems into operation are coming

THe high cost of implementing the systems, which will provide cellular phyna and data communications between any two places in the world at competitive prices, has not deterred a wide-variety of aerospace, satellite, equipment manufacturers and telecommunication groups.

Not surprisingly, however, the massive price tag has prompted the formation of consortia to spread the costs and to speed development.

Development -costs -vary greatly, ranging from \$1.5bn Iridium plan to have their to \$6.5bn for the different services among the five consortia which have emerged with firm plans to establish satellite systems. Two of the consortia say they will be ready to launch within the next three

vears. The race is lent extra excitement hy the belief amnng many analysts that a handheld mobile satellite service is only financially viable for a maximum of two or three operators. "This is the year we see at least two of the fledglings fall by the wayside," said a senior executive of one consortium.

Hnw hig is the potential market? Tha world mobile telecoms market is today worth in the region of \$3.2bn (£2bn), according to ABN Amro Hoare Govett, and the broking house estimates it could be worth \$6.5bn in 10 years' tima. It suggests the mobile satellite market could be worth around \$500m in 2000, rising to \$2bn by 2005.

Mobile telephone calls can already be made via satellite. but the costs of both calls and equipment are prohthitive. Equally importantly, the equipment needed has to be stored in a large suitcase.

## Integration with existing services

The new satellite mobile market would involve using a normal-sized telephone although early indications are that it will be slightly larger than today's mobiles - which would be fully integrated with existing fixed and cellular services. Rates would be more expensive than current international rates, but two of tha satellite consortia are forecasting international call rates of

under \$3 a minute. As with the advent of conventional mobile services, business users will be the first to be targeted for the new ser-

The five leading consortia

• Ginbalstar - a venture between US grnnps Loral, Qualcomm, Ellipsat, Constellation Communications and American Mobile Satellite Corporation:

 Odyssey - a partnership hetween US aerospace group TRW, with Teleginbe of Can-

ada: Iridium - a consortium led by Motorola of the US; and Inmarsat-P - the only European venture funded by 38 members of the Inmarsat

marine satellite consortium. All are at various stages of raising finance. Iridinm has raised \$1.6bn and is on tha verge of raising an additional

## Satellite communications: Inmarsat aims for global coverage for all its services, reports Julia King Prices fall as competition increases

There will be more than lm personal mobile satellite customers by 2000 and several million early next century

Hand-beld satellite mobile phones may be the next big battle in space, but they are unlikely to go into widespread commercial service before the turn of tha century. In the meantime, there is a window of opportunity for satellite systems such as those from Inmarsat, which already provides worldwide coverage.

Inmarsat is the international organisation owned by its member-companies which ploneered maritime satellite communications in the early 1980s. Inmarsat can make global satellite connections anywhere today, but calls cost up in \$10 a minute and the equipment to make and receive them fills a large suitcase and costs about \$25,000.

The aim of a global satellite pbone service is to be able in make calls from mobile phooes no larger than today's cellular handsets at a cost of \$3 a min-

Meanwhile, Inmarsat aims to provide global coverage from all its services on all of its systems, an aim which is apparently unmatched by any of its competitors in the area of satellite communications, most of whom are just beginning to provide services that are predominantly regional.

To those who complain that communications using satellites represents an expensive proposition, the counter argument is that it is cheaper than wiring up a wbole region. It also avoids the problems that some communications companies have eocountered in rural Copper that is put into the

ground in certain developing countries is often immediately remnyed by the local inhabitants for re-use in some project

deemed more important, or is resold for mucb-needed

Tim Herring, geoeral manager of lumarsat's land mobile division, adds that in countries where users are accustomed to paying charges of \$3-4 per minute using phone cards, Inmarsat's charges do not represent such a daunting proposition. The charges seem higher to those coming from countries whose telecommunications regime is liberalised and competitlon has driven down

Prices are falling all the time, according to Herring and competition is welcomed Inmarsat, since it will help drive growth of tha market overall. The latest terminal to be launched, the microCOM-M phone from Magellan Systems. costs just under \$8,000 aod calls are hilled at \$4.25 per minute using a pre-paid 'smart card' from OGM Communications. Magellan Systems bas diversified out of its normal field of positioning and naviga tion products using GPS, the Global Positioning System few yachtsmen would now be with-

As well as attracting low call charges, the terminal also represents a breaktbrough ln terms of size. It weighs 2.5 kilogrammes and is A4 size, making it the same size as the lantop computer carried by most executives.

As the name suggests, the terminal is designed for use with the lnmarsat-M service and can be used for maritime or terrestrial applications, lt can also be used for making voice, fax or data calls,

Inmarsat's expertise and business lies predominantly in tbe maritime area. Merchant shipping represents the single largest area for the organisation, according to Herring, and more than 50 per cent of its 55,000 terminals are devoted to

However, the number of terminals is growing by between 2 and 2.5 per cent per month,



The old and the new: in Hanoi, Vietnam, a satellite dish is fixed

says Herring, indicating the increasing demand for satellite communications. The number of users of the services is said to be increasing by more than 1.000 each month.

A small number of signatories, through wbom customers obtain service over the Inmarsat network, oow offer global As a result, customers no

longer need to sign-on with differeot signatories and arrange billing with separate authorities as they change regions. Where terminals are to be used aolely within one region, this obviously does not represent an issue, but it does offer the potential for truly mobile use. For mobile users, there is also a global carphone service

using Inmarsat-M. Currently, volce and fax services are available: data is expected to be added by the end of the

has transformed itself dramat-

lcally in Britain. The change

was been symbolically marked

when the industry trade organ-

isation changed its name from

the Cahle Television Associa-

For the industry telephony is

year. The benefit of the service is that it is available even in regions not yet covered by cellular technology. Once again, call charges are said to be

between \$4 and \$6 per minute. Carphone products are available from O'Gara Satellite Networks, IN-Snec and STN Atlas Elektronik with GEC Marconi. Hagenuk and Ball Aerospace also planning to launch prod-

Inmarsat expects that aid

ageocies will be one sector to use the carphone; the agencies are already heavy users of Inmarsat products. The latest versions are quick and easy to set up, restoring communications immediately to an area hit by oatural disaster which has severed all other links. Examples include the recent Caribbean burricane zones and the Kobe earthquake in Japan. In the light of pressing need

situations, Inmarsat has receotly amended its policy on waiving charges for its space segment in the event of natural disaster. Its FreeSpace pol-

aid on a more frequent and equitable basis. The request for free space segment use needs to come

lcy is now intended to provide

from the Signatory of the stricken country. Ease of use is vital when products are to be set up by relief workers with no commu-

nications skill or training. Products have now evolved to the point at which workers need in do little more than to ensure that they are pointing at a satellite. Nevertheless, training is still an important part of ensuring the successful implementation of satellite-

based products. Other regular users of satellite communications are peace keeping forces in regions such as Bosnia and trucking compa nies. Many of the latter, according to Tim Herring, will now only send their drivers into remote regions in which levels of crime are high if the cabs are equipped with satellite communications facilities.

The trucking companies have discovered that drivers are less likely in be attacked if they are seen to have communications facilities on-board: communications are also vital for helping in the case of break down.

A report commissioned recently by ACEA, the Association of European Automobile Builders, predicts that satellite communications will form an increasingly important element in development of the trucking industry over the next ten years.

As well as providing much needed emergency cover, satcoms belps with hetter fleet management. For example, drivers out on the road can be advised of a detour that they are required to make in order to pick up a last minute consignment for their return jour-

for communications in auch ney, so that trucks return full, not empty.

Safety is also a crucial factor in products developed for the maritime marketplace, where Inmarsat products comply with the recommendations of the International Maritime Organisation for Safety of Lifa at Sea (Solas). Terminals can be used

matically in addition to providing their users with more standard communications facilities. New satellites being put up into space by Inmarsat will make use of spot beams: focussing on the areas of the world in wblch demand for

for sending distress calls auto-

communications is highest. As a result, the satellites are more efficient. Because communication with the satellite is easier, both amplifiers for boosting the signal and antennas for receiving signals can be smaller and lighter.

One result of this has been the development of products developed specifically for use in short and medium haul aircraft. The Aero-l system will enable passengers on these airvoice, data and fax calls just as those on long haul aircraft have been able to do for the last two years. The system will cost between \$50,000 and \$100,000 ln comparison with the \$250,000 to \$350,000 needed for one of its predecessors.

Next year will see the launch of a one-way pocket-sized messaging device that will receive messages anywhere that is in view of a satellite. The device resembles a pager and will be able to receive messages of up to 128 characters. Herring expects the unit to cost between \$5-600. Satellite communications

may not represent a cheap option, but if the need for communication is great enough and there is no alternative, pricing appears more reasonable. "We understand that we're

TY

niona.

always on the fringe," says Herring, "As infrastructure is installed, we move further

■ Cable telecommunications: More than a million cable phone lines have now been installed in the UK. Raymond Snoddy reports

# Network for a future electronic superhighway In less than five years the nature of the cable business

Restrictions on cable television carrying telecom have both chosen medium services should be vices. The European venture lifted as quickly as tributing members, with a furpossible, says the European Union required to get the system off the ground. Inmarsat has

Cable telecommunications in

recently signed a \$1.3bn conthe UK has just reached an histract with Hughes Space and Communications for the 12 toric milestone. By the end of July, a total of more than 1m satellites its system will cable telephone lines had been installed, nine-tenths of them Hughes is likely to take a residential, and cable teleshare in the consortium as phone services are now an part of the deal. An announceimportant mainstay of the industry (see table, right). More A measure of the competisignificant, by installing a total tion - and nervousnesa of 1.033m telephone lines, cable among the five consortia telephony was only fractioninvolved in the development of ally behind the 1.044m total for the service was the startling cable television aubscribers. move by Odyssey consortium The rate of increase of cabla leader TRW to protect its protelephone installation is so posed satellite configuration steep - a year ago the total hy patent. The attempt to number of lines installed was "patent space" made headlines only 461,000 - it is certain that on both sides of the Atlantic the number of cable telephone and brought the debate over subscribers has already passed the number of television sub-TRW claimed its constella-

> Deregulation of the telephone industry in the UK has gone deeper than almost anywhere else although allowing cable companies to compete with traditional telecommunications operators, particularly

with the advent of multimedia services is likely to become commonplace over the next

Already 82 cable franchises are offering telephony and it is now virtually unthinkable in the UK that cable aperators should merely offer extra chan nels of televisioo without at the same time providing telephone services to compete with BT, the dominant telecommunications group.

a very attractive business. It provides a second stream of revenue that many in the UK cable operators reach one million target - twice Two milestones reached in the UK: the broadband cable industry has reached 1m cable television subscribers and 1m telephone lines have been installed, according to latest figures from tha

tion to the Cable

tions Association.

Independent Television Commission July 1995 April 1995 July 1994 Number of operating franchises \_4,668,200 4,494,241 3,336,075 Broadband homes passed \_ 707,707 1.044,290 963, 132 Broadband homes connected. Subs as % of TV homes . 4.66% 4.26% 3.17% 21,2% 21.0% 148% 151% 144% Franchises providing telephony 1,033,723 872,573 461,032 Telephone lines installed \_ 413,080 - of which residential . 934,511 789,315 of which business 99.212 83.258 47.952 All cable homes passed 5.562.513 5,165,095 4.178.910 1.185.553 1,109,771 871,409 20.9% 21.4%

ia. Poyfoseir milio is a magemer of the membas of addoctiplicate to the pay chansels (Stry Moues, The Mouse Charmal, Stry Sports and Home Moto Charmed, par a parametaja of tola subscribers. "Source, 172, London Septembar 1995

industry believe will ultlmalely overshadow revenues from television. Some, such as General Cable, pioneers in providing cable telecommunications services, gn even further and argue that there are now three distinct streams of revenue from the cable television, residential and busi-

ness telephony. For General Cable, business customers have been averaging 5.5 lines each, and in the six mooths to the end of June husiness line generated an average of £1,087 a year. This was down from £1,293 in the previous six months, partly because of taking on lower revenue business and partly because of growing competitioo in the marketplace as BT

starts to fight back hard against its growing cable rival. Apart from generating higher revenues than cable televisioo subscriptions cable higher penetration levels - the ratio of those subscribing to those who could - than televisioo. At Nynex CahleComms, a subsidiary of the large New York and New England telephone company, which is the second largest cable operator in the UK, the television penetration rate is 18.8 per cent but the telecommunications subscriber rate is 22.4 per cent.

telephones generally achieve The better performance on



Mr Karel Van Miert, the European Union competition commi says: "We cannot yet predict exactly what will happen with multim and convergence. All we know is that networks must be developed and competition must be introduced and protected

telephones has been boosted by All we know is that networks Nynex promising that its average residential customert will save 25 per ceot over BT standard prices for line rental and call charges combined, before discounts and promotions. Another plus for the cable

tomers seem to show greater scribers and 'churn' - the industry jargon for those who end their aubscriptions - is markedly lower. BT has, however, been respooding with special deals of its own and it is likely that

growing competition in tele-

communications as new

entrants arrive will increase

operator is that telephone cus-

pressure oo the profit margins cable operators can can earn from telephony. As convergence between

entertainment, telecoms and computers continuea cable operators across Europe bone they will soon be free to offer both telecoms and multimedia

## Directive

Mr Karel Van Miert, the European Union competition commissioner, believes that the current restrictions on cable television carrying telecom services should be lifted as soon as possible.

Lifting what he believes are outdated restrictions is the main point behind a European Commission draft directive on cable networks.

The aim of the draft directive is tn ensure that preparations should get under way next year for cable networks across the European Union in be able to carry public voice telephony from 1998.

We cannot yet predict exactly what will happen with multimedia and convergence. in be more than a pipedream.

must be developed and competition must be introduced and protected." Mr Van Miert told the European Cable Communications Association in May. In the UK, one stumbling

block to the further spread of cable telephony has been "number portability." At the moment, any consumer wanting to change to cable telenhony has to change their telephone number. For small husineses, in particular, this The cable industry has won

the argument with Oftel, the telecommunications regulator, but there then followed a squabble between the cable industry and BT about who should pay for the necessary software changes. The issue was referred to the Monopolies and Mergers Commission which is expected to come up with a compromise next month.

in return for full number portability, the cable cnmpanies are likely in have to pay a one-off fee plus a continuing proportion of future revenues.

For the cable companies, full number portability, is of course a double-edged sword. Cuslomer-traffic would in future find it much easier to flow back to BT again without the inconvenience of a second number change.

But despite such tactical matters, all the signs are that cable telephony will continue to he of vital importance for the cable industry and that it will fund the creation of networks that will eventually create multimedia capacity. As a result, at least in some urban parts of the UK, something approaching the electronic superhighway might turn out



Creating an international telecom gateway: Bell Cablemedia, one of the UK's leading cable companies, has announced a pioneering affiance with Teleglobe International (UIQ, a subsidiary of the Canadian intercontinental telecoms carrier (turnover C\$1.5bn). Bell Cablemedia, which has 2.1 equity homes nation-wide, will provide Teleglobe with interconnection and switching services for overseas traffic. The agreement aims to give "significant Christopher Price cost reductions" for carriers and customers. This alliance is Teleglobe's first commercial venture in the UK cable market.

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# A continent in transition: Some governments seem determined to control information flow, and for them the telecommunication revolution is a threat, reports Michael Holman in Nairobi Wary welcome for telecom breakthroughs

more than three per cent a

The biggest prize will be the project that links African states to each other - and links the continent to the world more efficiently than at present

In Africa, a telecommunications revolution is under way - potentially as profound in its implications as anything that has happened since the end of colonial rule, nearly forty years ago.

From Lagos to Lusaka, Africans are breaking the stranglehold on information maintained by many of their governments. Ready-access to the outsida world through the tools of new information technology is beginning to provide news and data that would been unthinkable a generation ago. And although only a compara tive handful of Africans so far bave the facilities required on a continent where telecommu nications services are generally poor, political and economic debate has been greatly stimulated.

Computer "notice hoards" allow exiled opposition groups to put their case to an international audience, and academics exchange information by electronic mail (e-mail) or Internet on World Bank and International Monetary Fund policles in Africa.

The availability of a variety of sources not only of news about the world, hut information about the countries they live in, has become a catalyst in Africa's difficult transition from authoritarian regimes to multi-party democracies.

Already. Africa's expanding telecommunications market is worth some \$1.5hn a year and rising rapidly. It is a market that, despite the difficulties of doing business in Africa, isattracting the world's top companies in the sector, including Siemens of Germany; France Télécom: Sweden's Telia International and Swefund International; Cable & Wireless and Vodafone (both UK); Switzerland's Clovergem; and Moto-

Barely a month goes hy without a new country or regional project coming on to the market. But the higgest prize will be the project that links Afri-can states to each other, and links the continent to the world more efficiently than It is today. At least two multibillion dollar proposals are on the continent's development agenda, designed to close the gap in communications between Africa and the rest of the world. According to the Geneva-hased International Telecommunications Union

(ITU), sub-Saharan Africa with around 500m people has only 35m phone lines The fact that 12 per cent of

the world's population has only 2 per cent of the world's main telephone lines is a striking statistic in itself. But the figure conceals even more striking evidence of weakness.

An estimated 60 per cent of concentrated in South Africa. The picture is even worse outside the town and clues. Some 70 per cent of Africa's population live in the rural areas. served by only 228,000 lines.

The obstacles to develop ment of the sector, say officials of the Pan-Africa Telecommunications Union, include foreign exchange shortages, and the difficulty of keeping pace with demand that comes from a population increasing by

Add to these factors Africa's post-independence record of disasters - man-made and natural - which have severely damaged the infrastructure of the continent, and the prohlems facing the sector are for-midable. Yet, instead of enthustastically welcoming the technological breakthroughs of recent years, many African governments have misgivings.

Notwithstanding the growth of democracy in Africa over the past few years, most governments seem determined to control information flow, and for them the telecommunication revolution is a threat. Left ernments would he dragging their feet. As it is, they are under increasing pressure from

Central to the economic reform programme urged on Africa hy the World Bank and the IMF, is privatisation of state-owned corporations, including tha telecommunication companies.

Placing the sector in private hands will be a step forward, hut there is a further burdle to be overcome - the lack of and regions in Africa over a co-ordinated strategy for the continent

There is little evidence that the telecommunications sector will prove an exception to a dismal record. Despite having some 200 organisations intended to promote regional co-operation, intra-African trade is stagnant, and regional hodies such as Ecowas have argely failed.

Plans to set up the conti-nent's own satellite broadcasting site under the auspices of the OAU, for example, are heing held up hy rivalry hetween Egypt and Ivory Coast over the location. Yet, the consequences of

delay in initiating and co-ordinating what has to be a continent wide telecommunicaprogramme are far-reaching

"If we fail to put more effort and resources into catching up. and exploiting the new opportunities, we will lose the battle against under-development" warns a Lagos banker.



couraged by a BT engineer

The warning is echoed in a recent appraisal of the continent's access to Internet and other international data systems, in a report called Networking in Africo, hy Jean-Yves Djamen and Dunia Ste-

Only six countries - South Africa, Zambia, Egypt, Tunisia, Algeria and Mozambique have full Internet connectivity. although around two dozen nations have limited access. Internet's African subscrib-

ers total only 27,000 out of 50m worldwide, and although growing fast, the figure needs to be higher if Africa is to make best use of this 'network of net-

"The global village is a reallty. African countries cannot afford to progress on the basis of a closed world assumption." say the report's authors.

"If the present state of network communications in Africa persist, then the gap

hetween rich and poor countries will grow even wider," the study emphasises. "It would he disastrous if

Africa does not hook-up

now ... we will be left out of

the whole globalisation pro-' says Mike Jensen of San-Africa's telecom market is

already worth \$1.5bn a year and rising rapidly

gonet, a southern African based non-government organisation which promotes the case

for expanding Africa's access. Whether these warnings spur governments currently considering several projects on improve communications remains to be seen. Options before them include: ■ Africa One - proposed hy AT&T. hased nn a 30,000-mile

underwater fibre optic cable.

which would link 41 African

countries, as well as link in to networks in Italy and Saudi Arabia, funded through a mix of private and public sources. Initially, the scheme would concentrate on coastal centres. then develop regional networks and finally link in to the

global information system. "It will make an excellent, cost-effective way for them to connect from country to country," according to Glenda Jones, Africa managing director of AT&T Suhmarine

Systems. Afrilink: Siemens has put forward an alternative plan in which the continent would be linked by \$10-miles of under-

water cable hops. ■ Atlantis-2: a proposal to lay suhmarine fibre-optic cables between Brazil, Senegal, Spain and Portugal, This plan comes under an accord signed by Senegal, Benin, Cape Verde, Gambia, Guinea. Mauritania and Togo, with France Télécom, Brazil's Emhratel, Marconi Portugal, Spain's Telefooica and Argentina's Telintar. Afrinetwork, in which

NTT International Corp. a subsidiary of Nippon Telegraph and Telephone, would play a leading role. There is no indication, how ever, that Africa is close to reaching the consensus

required to implement the most suitable of these schemes. But the longer the delay, the greater will be the adverse impact on Africa's efforts to overcome underdevelopment. As Dieman and Stephane put

It in their report: "Haves and have-nots of the next century will be defined by their degree of access to information."

■ South Africa: Five million new lines are needed in the next five years, reports Roger Matthews

There is a search for balance between the needs of business, and the state's social and political goals

South Africa is debating the future of its telecommunicatloos industry in much the same, open way as it is approaching a wide range of ther basic issues

The legacy of the apartheid system on telecommunications is all too apparent to the majority of the population, and to the African National Congress which took office at the head of the government of national unity in May 1994. According to official estimates there is less than one telephone per 100 hlack people, compared to ahout 60 lines per 100 whites. Narrowing that gap, without inhihiting the

critical role of the industry in assisting South Africa's re-entry into the world economic community, is just one of the sometimes conflicting challenges facing the government. Pallo Jordan, the Minister of Posts. Telecommunications and Broadcasting, is acutely

aware of the need to redress what he describes as "the scandalous denial of access to modern telecommunications to millions of our people". He is also well aware of the International telecommunications companies waiting outside his door in the hope of securing a foothold in the South African industry, either through supply contracts or, better, through an equity stake in Telkom, the

state monopoly.
In July, Mr Jordan launched a three-month cousultation process with the publication of a green paper which addressed more than 150 primary questions to the public in general, and to those telecommunications users with a strong interest in the industry's future.

This process is running in parallel with the government's request for blds from companies to install over the next five years an additional 5m phone lines to tha most deprived areas of the country at an expected cost of some R6bn (£1.05bn). There are currently 3.8m working lines in South Africa, and a backlog of some 130,000 applicants from

the more affluent areas.

No contracts are likely to be awarded before the government has emerged from the consultation process with a



broadly agreed approach to future policy. The questions raised by the greeu paper cover the whole gamut of telecom-munications operations, from ownership, investment and financing, to regulation, tariffs and international co-operation. The answers to many of them will impinge on the future of Telkom, and the role of the pri-

The government does not Uke to use the word privatisation, except on the rare occasion when it wishes to refer to the complete sale of a state-owned asset. The explanation is primarily political and recognises the strong emotional reaction to the perceived consequences of privatisation. For many, British-style privatisa-tion smacks of large-scale redundancles and the loss of opportunities for the state to advance employment prospects

for the black majority. Instead, the government prefers to talk about the restructuring of state assets. The debate is likely to be decided ultimately by the inability of the government to finance its programmes through its own resources.

President Nelson Mandela has warned several times this year that the government does not have "a pot of gold", and that one of its main targets must be to reduce the level of official debt and cut the hudget delicit, currently running at an unacreptably high 5.8 per cent of gross domestic product,

Telkom is already anticipat-



e an unlimited "pot of gold"

It has embarked on its own programme of restructuring which could see the sale of some of its non-core support operations such as transport, construction. restaurants. security and workshops. This could reduce Telkom's 60,000strong labour force hy an estimated 14,000, hringing staffing levels more into line with comparable companies overseas. Partial agreement has been reached with the unions, but negotiations are expected to take several more months to

However, the goal of greater efficiency at Telkom is unlikely to be encouraged by Intensified competition in the domestic market. Mr Jordan

acknowledged earlier this year that eventually Telkom would have to seek an equity partner. hut he has since come out strongly against permitting the entry of the global giants.

"If we opened up the market now and allowed in say AT&T or British Telecom, they would wipe us out within a week." he said. "I am not going to look at that route. It is suhversive." The suspicion voiced by Mr

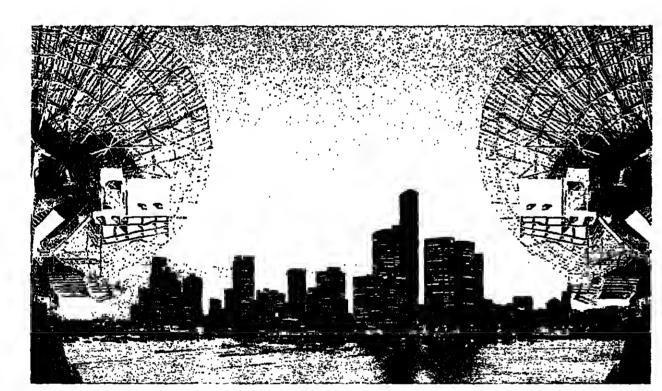
Jordan is that international interest in the South African market is limited to the more affluent areas of the country around Johannesburg, Pretoria and Cape Town, where most industry and husiness is situ

"Telkom must first serve the needs of all South Africans. and not merely a privileged few as in the past," said Mr

Jordan. The most probable outcome is that initially the government will decide to offer international hidders the chance to acquire a 20 per cent stake in

Anything more than that would be unwise, not least because in a few years Telkom will he worth substantially more, and further equily stakes could be sold off at commensurately higher prices.

But there is no anestion of full-scale privatisation at this stage. Whoever seeks a stake in Telkom must fully appreciate that the government has its own social and political goals. and be prepared to play a part



Sub-Saharan Africa's 500m people have only 3,5m telephone lines.

Around 70 per cent of Africa's population live in rural areas, served by

only 228,000 lines. Pictured here are homes in the Bester Stettlement,

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says one official.

■ View from the top: by Dr Ron Sommer, chief executive of Deutsche Telecom

# New alliances for a new era

'The transatlantic alliance between Deutsche Telekom, France Télécom and Sprint of the US, represents an important step towards the provision of comprehensive telecommunications services'

Telecommunications markets and the economic and regulatory factors surrounding them are in fundamental global transition. Their world is in the throes of a revolution, the extent and significance of which has yet to be determined m terms of economic political and social consequences.

The times when work, land and capital were the only prerequisites for a successful national economy are long gone. "Information" is now taking on an importance noone had ever dreamed of as the fourth factor of production. New markets are evolving with previously unseen speed.

inextricably linked to this global development, is the end of the monopoly era. Very few companies will have adequate staff levels, technology and finance to handle the new market volume and the requirements of the specific target groups. Modern corporate three main strategic objectives: strategy - decisions about options for the future - must

hinge on elements such as internationalisation and the formation of alliances.

Deutsche Telekom AG must follow these lines in order to do justice to its economic significance for Germany and Europe as a whole. Its strategic alliance with France Telecom and now with the US carrier. Sprint - represents a promising way of assuring its future as a global player in an ever intensifying competitive envi-

We are standing on the threshold of open competition. Deutsche Telekom will take all forms of competition seriously, whether domestic or international. Alliances such as Unisource, British Telecom/MCI or AT&T/McCaw are already showing the way towards glohalisation. For this reason, Deutsche Telekom must reposition itself in many areas.

The repositioning is based on Safeguarding key husiness activities.

Opening up new markets for the future, such as multi-

 Internationalisation of the company's business activities. In order to be able to face up to the new challenges effectively, several new structures were, and are, being considered. Decentralised, flaxible, dynamic units are more important now than ever before.

To realise the necessary level of flexibility, the process of outsourcing complete husiness segments is heing systematically pushed forward; furthermore, Deutsche Telekom is forging links with highly competent business partners, such as Intel and Microsoft.

Markets do not just need to he occupied geographically; they must also be penetrated with new, innovative and customer-orientated products. In this respect, the field of multimedia and the much talked about information highway play a key role. Home-shopping home-banking video-ondemand, telemedicine and other services, the visions of today, hut the reality of tomorrow, will contribute to the expansion of Deutsche Telekom's market share.

By the end of this year, the first multimedia trials will be put into operation with videoon-demand services in Berlin. Deutsche Telekom will be discounts and tariff options for building on already existing technology, which will then be of telecommunications traffic adapted to the demands of the future. Capital-intensive rehuilding of the telecommunications infrastructures is not

necessary in most cases. Competition is no less powerful an agent for change than new media. It will mean flexible tariff structures: in future, prices will be linked to actual costs rather than to political preconceptions. A rebalancing of the tariff structures, as Oeutsche Telekom is now

> 'New markets are evolving with previously unseen speed'

implementing, is therefore of

great importance and, along

with the 13 per cent price cut for business customers, represents one of the key points of the so-called tariff structure reform, which is to come into force on January 1 1996. On July 1 1996. Deutsche Telekom will then further reduce the tariffs by another 5 per cent, with the emphasis on international and long-distance calls.

lt will also introduce new customers with a large volume Safeguarding the home mar-

ket is just as important as tha internationalisation of the company. However, they must both be achieved together. In its efforts to do this. Deutsche Telekom was quick in laying the foundations for successful international business operations. Numerous foreign representative offices were set up, for example, in Asia and the US, Russia and Britain.

Furthermore, we have proved our commitment to internationalisation through many joint ventures in countries snch as Russia, the Ukraine, Hungary and Kazakhstan. Thus, Deutsche Telekom can use the comprehensive knowledge it gained in the Development Programme for Eastern Germany" in the setting-np of modern telecomunications infrastructures and thereby also pave the way for a modern national economy.

The highlights will be the far-reaching co-operation with France Télécom and the global alliance with the US carrier Sprint, Co-operation between France Telecom and Deutsche Telekom has been developing nicely for years, for example in



Ron Sommer: 'Competition is a no less powerful an agent for change

the form of the common subsidiary company, Eunetcom. Closely linked with this is the expansion of the trans-Eu- infrastructure. These networks

ropean networks, which will be the backbone of the European Union's telecommunications

provide the opportunity to push ahead with the further development of the common market.

Deutsche Telekom took part in the plans and projects from an early stage. Five carriers from Britain, France, Spain, Italy and Germany have come together to provide a Europewide common borderless transmission network under the umbrella of "GEN", the Global European Network.

## 'We stand on the threshold of open competition'

The transatlantic alliance between Deutsche Telekom, France Télécom and Sprint represents an important step towards the provision of comprehensive telecommunica. tions services. However, there is one thing nobody must lose sight of a global presence can only really be achieved hy successfully conquering the fastest growing market in the world - the Asian-Pacific region - and by expanding the alliance to become a genuine global force through a competent, highly motivated partner-

For reports on the German telecoms market and European developments: see pages 2 and 3 of this survey

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Telecoms outsourcing contracts

# Many variations on a theme

Users are in a strong position to negotiate fees, writes Joia Shillingford

Full telecoms outsourcing means handing over the company telecoms network - and the staff who run it - to a third party. But there are variations, such as swapping an in-house network for space on an externally managed network. It is also possible to contract-out the building of a new network. or the management of communications services like elec-

sourcing include: Core business focus: companies are focusing more on their core husinesses and less on extraneous services, such as telecoms. Gillette contracted the underlying services. Netout its network so it could concentrate on its consumer product lines rather than spend

Key drivers for telecoms out-

time and effort on international data networking. M Cost-control: companies contracting-out their networks usually agree to pay a fixed price for five years. This is easier to control than the escalating costs of an in-house network; or the high capital cost necessary to upgrade an

existing network or huild a In the UK, National Westminster Bank's £350m (£70m a combination of high discounts year) outsourcing contract with BT enables it to transfer communications costs from its capital account to its current account, while introducing

improvements. M Growing complexity: Networks are becoming more complex and companies realise they will need extra staff and up-to-date skills to upgrade. Rather than buy these in, some decide to contract out.

■ Desire to interconnect local area networks; many companies opt for outsourcing or managed data network services because they want to use new networking technologies, such as Frame Relay or SMDS (Switched Multi-Megahit Data Services to link local-area networks (Lans).

BT's first task for the Woolwich Building Society under its £30m-plus contract will be to use frame relay to connect Laus at 600 branches to the Society's national data centre. ■ Competitive edge: Mr Richard Fryer, BT Global Net-

work Services marketing manager, says financial services companies can win a competitive advantage by moving to higher speed networks now. For example, if they could distribute information more quickly, they could upgrade services by enabling customers to get the same service at any branch as they would at their main one.

## Definition

Oping ns vary as to how fast the telecommunications outsourcing market is growing. This is partly a problem of definition. Some in the industry do not count the provision of managed network services (as m the Woolwich example) as full outsourcing; others exclude revenue from outsourcing contracts that the telecoms supplier would have

received anyway. John Lewis, marketing manager for BT's global services. puts growth at a conservative 15 per cent a year, although some parts of the market are growing up to twice as fast, Average contract values are also rising.

The Gartner Group, a research consultancy, says around 70 per cent of its European clients are considering outsourcing part or all their networks.

For those who take the plunge, telecoms outsourcing can bring a number of henefits. Chief among them are cost savings. Sue Uglow, co-author of a Gartner Group report on Enterprise Network Strategies, said: "Service prices for network outsourcing (another word for telecoms outsourcing) are negotiable.

"Gartner Group has seen discounts of up to 75 per cent based on the standard tariffs of work management and other value-added services were

## Cost-savings

Yet very large savings often lock users into long-term contracts of more than seven years. They contain implicit risks such as that the business relationship may sour, or the supplier fail to deliver.

Gartner Group advises users not to opt for the highest possihle discounts but for the best and low risk. However, it suggests that unless cost savings of over 30 per cent can be achieved, the potential risks of outsourcing outweigh the benefits. For example, telecoms outsourcing will not necessarily remove network problems: if anything it will increase the

complexity of the network and the need for careful planning. Moreover telecoms suppliers will not always give objective advice on how to run the network or cut costs. This is because one of their aims is to increase traffic over their net-

Nevertheless, users are in a strong position to negotiate in the run-up to the liberalisation of European telecoms in 1998. Monopoly telecoms operators are seeking new sources of rev enue, which means there they are keen to offer outsourcing. Private operators, such as MFS, are setting up competing pan-European networks.

And, at Telecoms '95, telecoms equipment supplier Nortel (formerly Northern Telecom) will announce it has set up a telecoms outsourcing divi-

A number of telecoms suppliers are also involved in alliances with other carriers as they vie for position in the market for international ser-

Alliances include Concert the BT-MCI joint venture, for which BT acts as a distributor in the UK; Uniworld – AT&T's alliance with Unisource (a consortium of Dutch, Swiss and Swedish telecoms operators); and Phoenix, a joint venture between Sprint of the US and Atlas (France Télécom and Deutsche Telecom)

Many of these alliances have yet to be approved. One exception is Concert "Concert is perceived as having a head start over most of the others: it is definitely making a difference when bidding for business overseas," says Mr Lewis.

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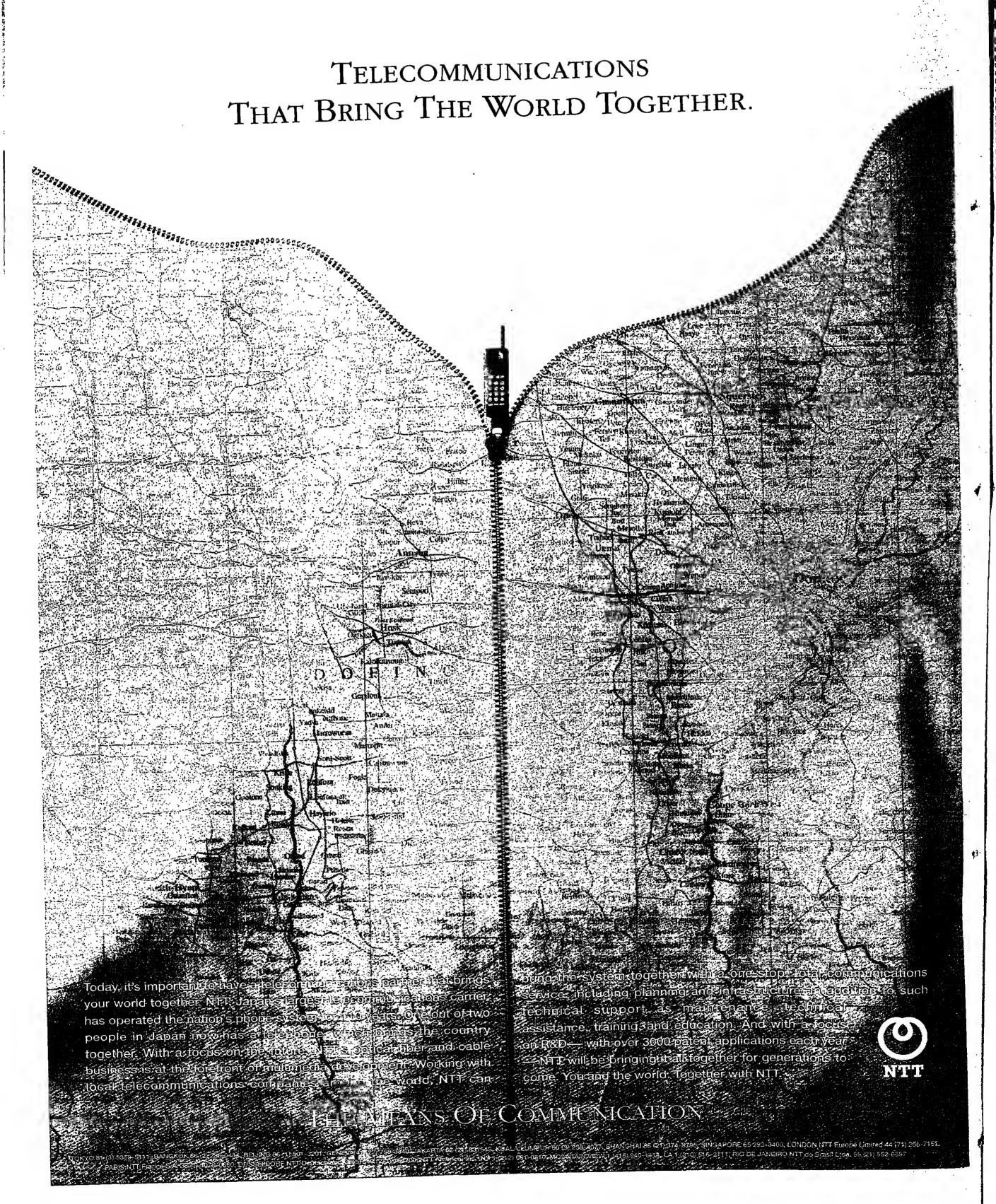
development and limited telephone service is creating significant demand for the Company's services.

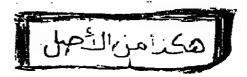
MIC is experiencing rapid growth in its global customer base. Worldwide subscribers increased by 101% in the 12 months to June 30, 1995 to 171,059.

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